THE ARCHITECT & BUILDING NEWS

22 DECEMBER 1955 · VOL 208 · NO. 25 · ONE SHILLING WEEKLY

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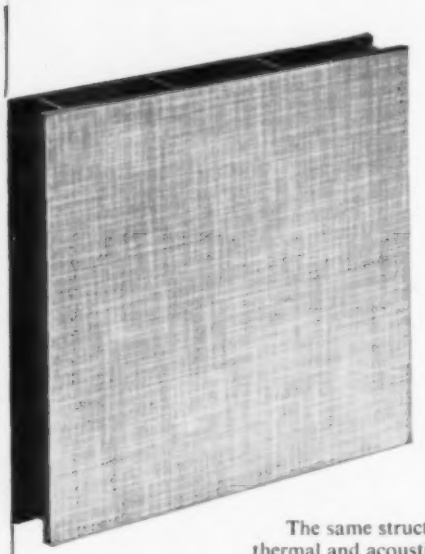

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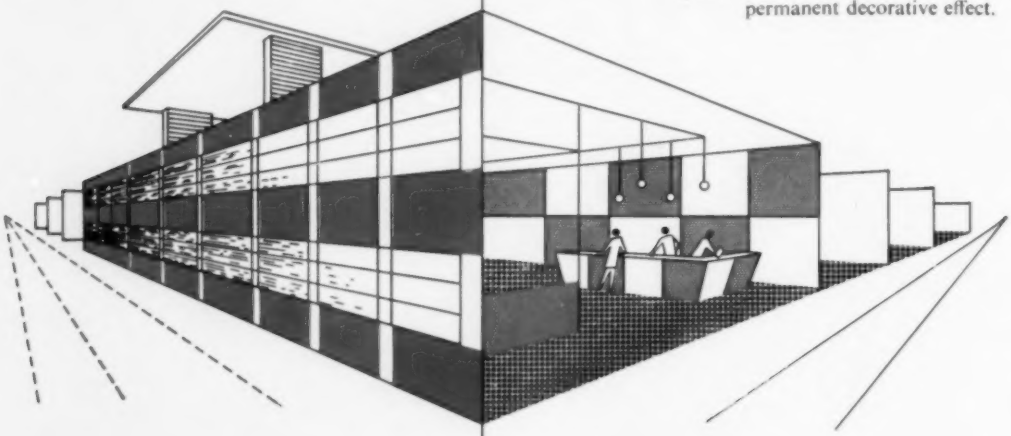

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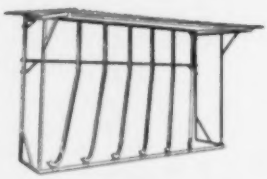
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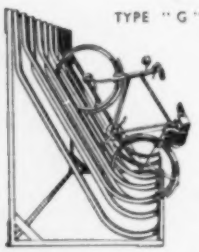
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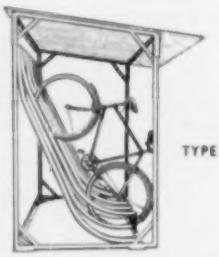
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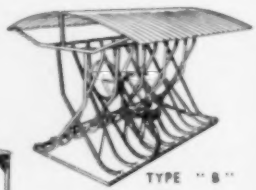
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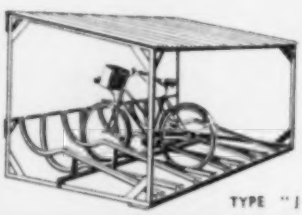
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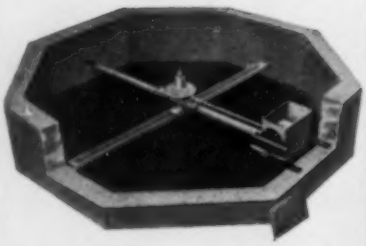

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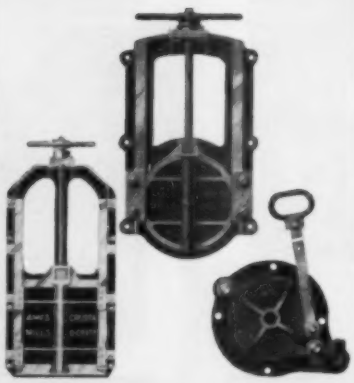

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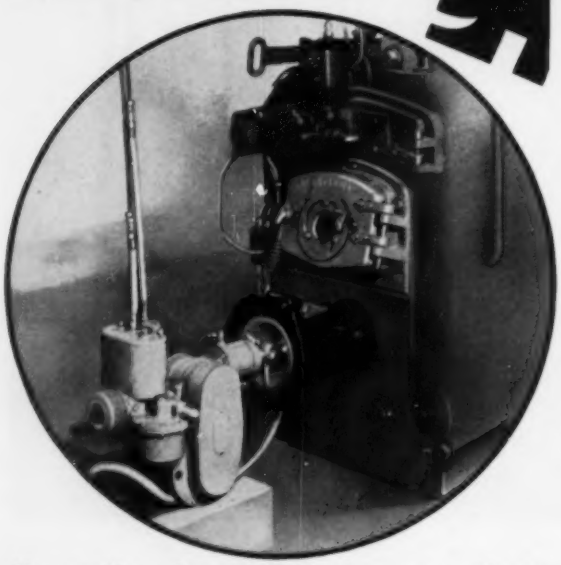

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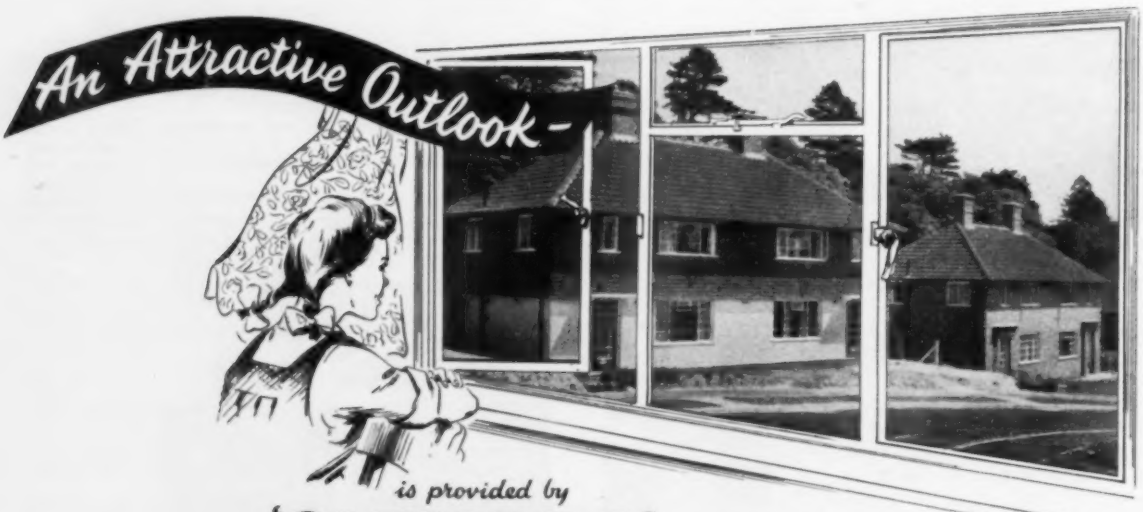

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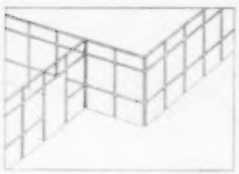

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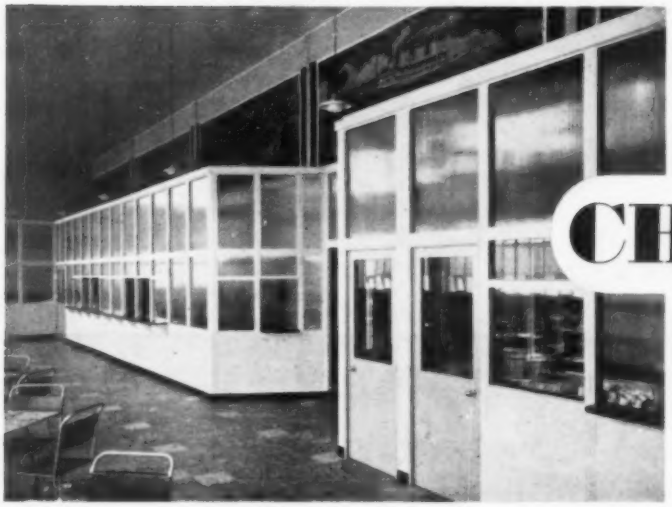

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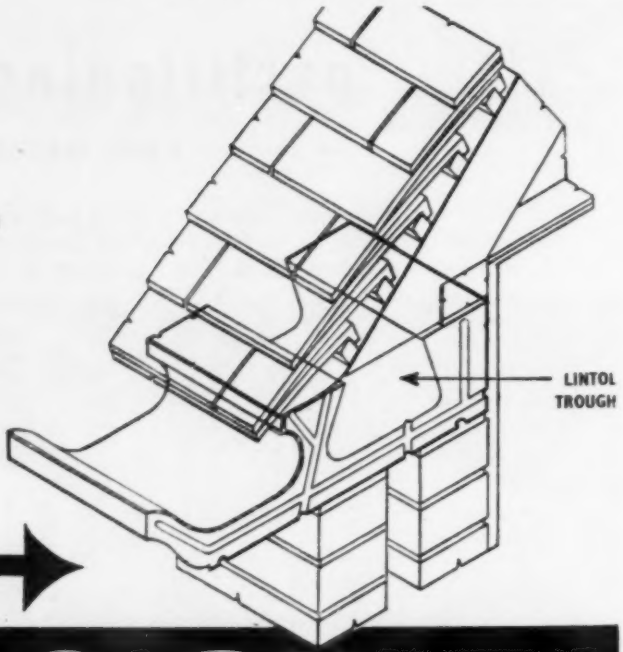

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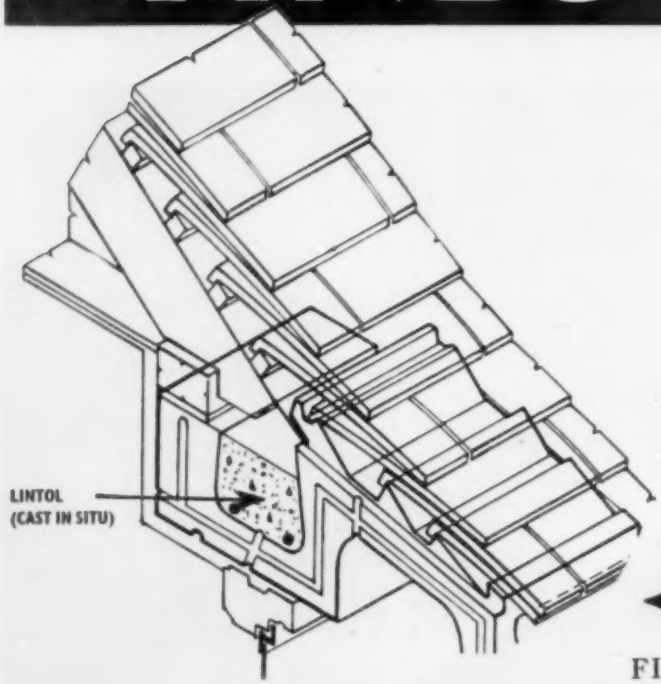

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Vol. 208 No. 25

THE ARCHITECT & BUILDING NEWS

22 December 1955

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CHRISTMAS STORY: A QUESTION OF DESIGN

IT was his first job. He had often wondered what it would be, but he hardly dared to hope that he would be commissioned to design and build a house, barely a few months after he had qualified. Donald was delighted and his mind was already at work on a hundred ideas for various aspects of the design. Yet even at this stage he was vaguely aware that there were difficulties ahead. He was conscious of a distinctly modified rapture when he considered his client. Mrs. Maria Snodgrass was as unlike her architect as could be; a ponderous woman well into her fifties, a widow, at first glance she gave the impression of a rather lugubrious seal. Her only feature which seemed inadequately developed to fit this description was her moustache. Prosaic, pernickety, she was pertinacious about details upon which she had views.

Donald, though very young, was more than able to handle her. Gifted with charm and imagination, good looking and elegant, he rarely experienced any difficulty in coping with people. On this occasion he was in an unusually good position. Armed with a very clear conception of his design he faced a client with no idea of what she wanted. As he expected she proved pliable in his hands. He had very soon satisfied her that his designs would provide all that she wanted in its most satisfactory form. As the work proceeded all seemed to go well; this made it all the more difficult for Donald to say why he felt the smallest bit nervous. Perhaps it was that rather annoying matter of Betsie.

When Donald had first shown Mrs. Snodgrass his completed elevations of the house, there had been an awkward moment. She had vetoed the elegant iron balustrade to the first floor balcony. As this had been one of Donald's most cherished features there was a certain acerbity about the ensuing discussion. The objection to the balustrade proved on inquiry to be a trifle unexpected. Betsie, it seemed, was the problem. Donald soon gathered that this important member of the Snodgrass menage suffered from the most regrettable tendencies. She was subject to acute suicidal impulses. Mrs. Snodgrass was very firm in her view that nothing was more likely than that Betsie would use the first-floor balcony. She was equally clear that these plain upright railings would be a positive invitation to Betsie to display her worst tendencies.

These objections were not of the kind which Donald was accustomed to meet. In later years he would have doubtless regarded the affair as a bagatelle. For the present he fought hard for this balustrade upon which he had bestowed much imaginative care. The only result of this struggle was that Mrs. Snodgrass offended his susceptibilities with the suggestion that the railing should remain but —. Instead of removing the balustrade she would cover the ironwork with wire netting. Donald was as puzzled as he was mortified. It was at this moment that a chance remark revealed the fact that Betsie was a pet dachshund. Thereafter the matter was soon amicably settled. Donald undertook to measure Betsie's figure and ensure that the intervals between the railings were so small that Betsie could not squeeze through. Some time was spent on passing a tape measure round Betsie's middle; an over indulged creature, she was found to be unexpectedly broad. This done, the spacing of the balusters was duly adjusted. So it was that Donald's design remained unaltered and in due course he proudly viewed his first completed work.

It was some months later that Donald made his first visit after his client had moved in. He was in unusually good form as he came up the curving drive and drew level with the large group of cypresses. He was pleased with the way that the trees had been so carefully placed as to conceal the house till a sudden turn in the drive revealed the entire facade. There now was the house before him; but he had eyes for none of it save the balcony. It was swathed in a shapeless mass of wire-netting. Very angry he was shown into the drawing-room by the maid where he waited for Mrs. Snodgrass with growing irritation and impatience. It was too bad of her, he thought, to have spoilt the facade in this appalling way. Had he not been to considerable trouble to re-space every single rail in the balustrade, merely to suit the erratic Betsie? But he heard his client coming. As her footsteps sounded in the hall the maid threw open the door. Mrs. Snodgrass was preceded by a bouncing barking Betsie — and four puppies.

EVENTS AND COMMENTS

TO ALL MY READERS

May your robins and holly berries be brighter than ever, your coach only temporarily delayed by snowdrifts, your inn crammed with capons and bulging with bottles. May the waits sing never more sweetly and pretty maids/swains attend you under each sprig of mistletoe. In short may you have a very Happy Christmas.

RAILWAY FIGURES

Enthusiasts will find the new edition of "Facts and Figures about British Railways" full of enthralling tables and fascinating revelations. For example all the standard gauge locomotives lumped together weigh 1,011,492 tons, and, only 553 horses are now employed by the railways. In 1948 the figure was 7,606. The booklet contains very little information on restaurant car meals. A record of the number of complaints received would be interesting.

Generally speaking the tables show improvements in efficiency although no mention at all is made of the accuracy or otherwise of timekeeping. The French Railways, remarkable for their recovery and vast improvement since the war, make a great point of their running regularity. It is a pity that B.R. do not do the same.

A small paragraph only is devoted to station improvements. "The drive," it says, "to modernise and brighten up stations continues."

Cleanliness of carriages gets two and a half lines. It is to be improved.

One final point. If every member of the staff were given a railway telegraph pole to take home for a yule-log there would still be 42,817 left to hold up the wires.

" I've never met an architect before . . . say something architectural "

(Reproduced by kind permission of the EVENING STANDARD)

RESTAURANT LIGHTING

My remarks about light for eating brought a recommendation from a reader to visit the "Ox on the Roof" in Chelsea. For years I have known about the place but on the few occasions on which I have actually tried to eat there it has been closed. My picture shows a general view of the first floor room there recently re-designed by Patrick Gwynne. The photograph does not, I think, do the room justice, probably because of lighting difficulties. The hanging shades are red and normally these are the only lights. This removes some of the accent from the deeply patterned ceiling which in reality is very pretty. A restaurant should be seen in action and full of people as I saw it.

Mr. Gwynne has to my mind exactly the right ideas about dining table lighting. Dark red the predominating colour, pools of light on the tables, reflected light from the tables on diners faces. A sense of cosiness and intimacy for each party but sufficient general light to make them feel a part of the room and not at the bottom of a well.

I went to the "Ox on the Roof" with the express purpose of seeing this room. We were given a table downstairs and the food was so good that I forgot all about the upstairs room, went home, put the car away and

suddenly realised what I had done. There was nothing for it but to go back and explain to a still wildly busy and slightly puzzled "patron" what had happened.

The place is full of the youth and beauty of Chelsea, the food is very nearly "best of all" and prices are by London standards average. Take your own wine.

FOOD AND ARCHITECTURE

The eating season is upon us and no doubt we shall all do ourselves rather too well in one way or another. We shall all praise the cook and drink her health. The turkey will be without question the finest we ever tasted, the etceteras the most varied and most numerous, the plum pudding the richest, the mince pies the hottest and brandiest and even if we had a vocabulary of comparative terms for description of foods we should only need the superlatives. At this season, therefore, the U.S. army's "food preference vocabulary" would be of no use to us. According to this work G.I.s grade food as follows "Best of all, like intensely, mighty fine, welcome, tasty, O.K., don't care for it, terrible, loathe, despise." This is known as an "hedonic scale" and is used to assess G.I.s reactions to food.

It seems to me that this scale would do very well for grading the works of one's architect friends—and acquaintances. In fact it might form the basis of one of those Christmas games. Don't thank me, thank the *Observer's* Scientific Correspondent.

THE GRENADIER GUARDS

As part of the celebrations of the 300th anniversary of the foundation of the regiment, the Grenadier Guards are holding an exhibition at St. James's Palace. It will be open from May 30 until June 23, 1956.

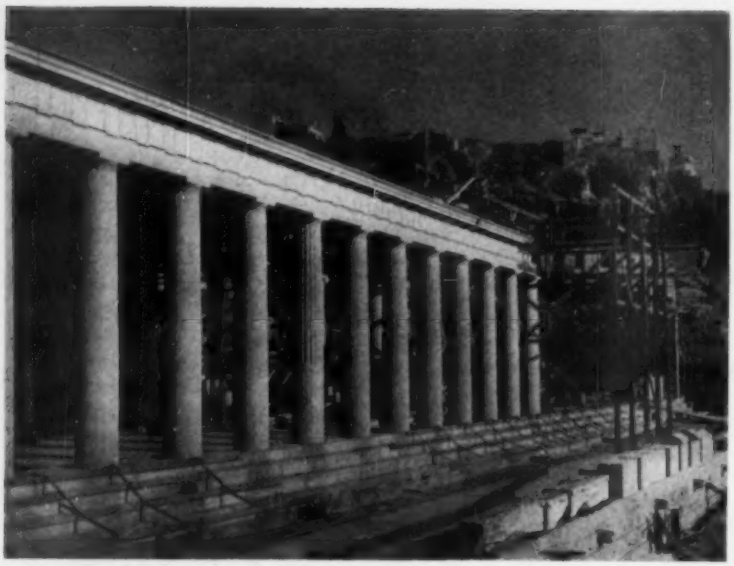
The exhibition will include relics of Marlborough and Wellington, a display of uniforms and portraits of 23 Colonels of the Regiment as well as Regimental medals, silver and souvenirs.

A new portrait of Her Majesty the Queen by Mr. Raymond Kanelba will be on view for the first time. This portrait shows Her Majesty in her uniform as Colonel-in-Chief of the Regiment.

I understand that there will also be a regimental pageant at the Royal Festival Hall and a ceremonial parade at Windsor.

ABNER

The Ox on the Roof. Designer : Patrick Gwynne



THE STOA OF ATTALOS AT ATHENS

THE restoration of the Stoa of Attalos in the ancient Agora of Athens is now well advanced; the basement, which will house the large number of inscribed stones and the more important marble inscriptions, is complete and already in partial use; the upper parts of the building, to contain other objects found in the American excavations of the Agora, ranging from the neolithic to recent periods are in course of construction. The work has been in progress for some two years and it is hoped to complete it in about twelve months' time.

The external material is marble and ancient methods such as fluting the columns by hand after erection of the drums and the like, has been adopted by the Greek constructors and marble workers.

The building was destroyed in 267 A.D., but all the extant parts and the usable fragments found in the excavations have been incorporated in the rebuilding. Even so, what will be the effect of this complete classical edifice amidst the archaeological garden of the excavated Agora? Little seems to be known of the external surface finish of the original building; was it coloured, as were so many other marble buildings of Athens? What were its sculptural adornments and furniture? Doubtless it will prove of great worth as a museum and will be a visual attraction for tourism; unless, in years to come, it is taken for granted by visitors as is now the somewhat doubtful complete restoration of the ancient Stadion (completed in time for the Olympic Games of 1906). Obviously there can be arguments against complete rebuilding of ancient structures and such work is certainly not quite the same as that admirably carried out between the wars on the lateral columns of the Parthenon or on the little Temple of Nike Apteros.

S.R.P.

An interesting but much earlier example of the fluting methods adopted by the Greeks for their columns is shown in this detail photograph. These drums were built into the defence wall on the north side of the Acropolis at Athens; they were prepared for the archaic Temple of Athena but never used.

(Photo. S.R.P.).

Annual Dinner of W. Yorks Society

The annual dinner and annual dance of the West Yorkshire Society of Architects was held at the Queens Hotel, Leeds, on 9 December. Sir Linton Andrews, proposing a toast to the Royal Institute of British Architects, coupled with the West Yorkshire Society, complained that architecture did not get the public attention so much as it deserved and criticised architectural critics for not giving a lead. He thought that architectural criticism should be a source of enlightenment and inspiration, but there was far more discussion of the latest edition of a panel game on TV than about the much more aesthetic ventures.

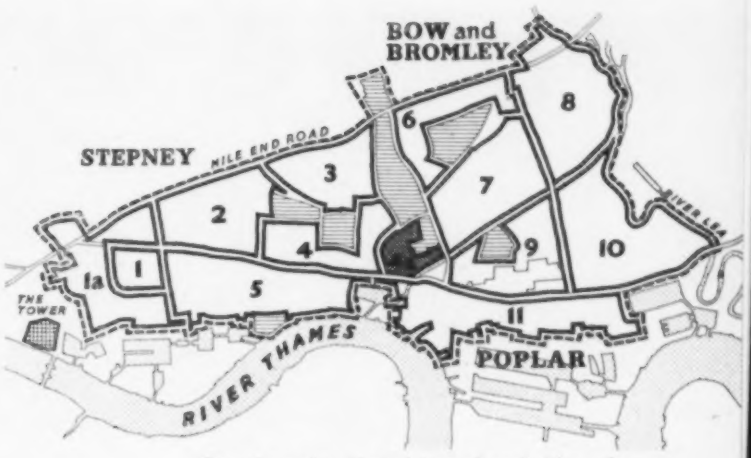
Welcoming the appointment of Mr. Basil Spence, architect of the new Coventry Cathedral, to the architectural professorship at Leeds University, Sir Linton declared that this choice would bring the stimulus of a dynamic and creative personality to Leeds students. It would also be most helpful if some new benefactor could come forward to endow research fellowships in architecture. Mr. C. H. Aslin, the Sheffield-born president of the Royal Institute, responding, described architects as poor publicists. He welcomed the endeavours of Sir Linton to see that when new buildings were mentioned in the Press the architects were also named.

The toast to the guests was proposed by Mr. Hubert Bennett, president of the West Yorkshire Society. Although he agreed with previous speakers that Leeds possessed some impressive buildings, he considered the overall picture of factories, mills, back-to-back houses, canals and railways to be chaotic. Other West Riding industrial towns were no better, but it should be realised that these were as much a part of our heritage as the lovely Yorkshire Dales. Architects had a responsibility for improving the aspect of these industrial towns by designing buildings which would enhance their appearance. Replying, the Lord Mayor of Leeds, Ald. Sir James Croysdale, thanked members of the profession for the way in which they were beautifying the city. He said they were grateful to architects, not just for the great work they were doing in designing buildings and houses, but for establishing a code of professional conduct which ensured a fair deal for members of the profession and also for members of the public.

Stepney — Poplar

Reconstruction Area No. 2

St. ANNE'S NEIGHBOURHOOD STEPNEY COUNTY OF LONDON



St. Anne's Neighbourhood No. 4a

THE reconstruction of the extensive war damaged areas in Stepney and Poplar as one comprehensive development was suggested in the County of London Plan and, after its adoption by the Council, was subsequently confirmed by the then Minister of Town and Country Planning in December, 1947, when the necessary powers to acquire land for this purpose were granted.

The Reconstruction Area includes part of three communities, Stepney, Poplar and Bow. It covers 1,945 acres, of which 1,312 acres are subject to compulsory purchase. The area has been replanned as a series of twelve neighbourhoods varying in size from 2,200 to 10,700 people, each as far as possible with its own schools, local shopping centres, open spaces and community buildings. The boundaries of the neighbourhoods have been largely dictated by existing barriers, such as main roads, railways and canals, and for this reason the individual neighbourhoods vary considerably in size and character.

In 1951 the first stage of the Lansbury neighbourhood was completed and formed the "Live Architecture" Exhibition at the time of the Festival of Britain. Development has been proceeding in stages in the other neighbourhoods since that time and work has now commenced on the St. Anne's Neighbourhood in the Stepney Community featured in this article will ultimately occupy an area of 42 acres, of which 17 acres will be redeveloped in the first stage.

In foreground, Grand Union Canal with Salmon Lane lockhouse and the 15 storey block behind. The other buildings can be identified from the plans on pages 806 and 807.

Aerial view of the St. Anne's neighbourhood as it is now.

St. Anne's Neighbourhood, Stepney

Location and General Character

The neighbourhood is located at the southernmost end of the extensive belt of open space which links with Victoria Park and terminates in Brickfield Gardens in the centre of the neighbourhood. It is bounded on the east by Burdett Road, on the south-east by Limehouse Cut, on the south by Commercial Road, and on the west by the railway and the Grand Union Canal.

Zoning Pattern

The zoning pattern was resolved without any great difficulty as it was found that the industry was well sited along the canal which carries waterborne transport from the Docks. Two large industries in the centre of the neighbourhood (a brass foundry and a coach building works) have had to be relocated.

The position of the shopping centre was found to be conveniently placed and it was decided that it should be redeveloped where it is in Salmon Lane.

The disposition of the open space and influenced almost entirely by the fact that the neighbourhood was located at the southern end of the King George's Fields Open Space. Accordingly the existing Brickfield Gardens has been retained as the termination of this extensive open space scheme.

Staging of Development

In deciding the stages in which the reconstruction of the St. Anne's neighbourhood would be undertaken, the principal factors, apart from financial considerations, were, of course, the amount of cleared land available and the age and condition of the buildings still remaining.

It was decided to carry out the reconstruction in four stages. In the first stage of reconstruction now being undertaken, about two-thirds of the neighbourhood will be rebuilt and housing will be provided for about 1,630 persons (ultimate population 2,200).

In addition, it is proposed that the following shall be provided in the first stage:—

A shopping centre with 24 shops, including positions for moveable market stalls.

St. Anne's C. of E. Primary School for 320 children (unlikely to be commenced until the end of the first period).

A District Office and Maintenance Depot for the Housing Management Department of the Council.

New public open space to the extent of some 2½ acres.

Photo, Aerofilms

Montage showing proposed building development and open space.

Salmon Lane Shopping Centre and Market

This shopping centre and market had been an important centre before the war but the war damage was very extensive and it has remained largely derelict since, except for the extreme southern end. Undoubtedly this centre is an important one as it is the only centre between Watney Street and Chrisp Street and the demand for its facilities will increase when the Council's housing development has been carried out. It is considered that the small amount of traffic through Salmon Lane does not justify the creation of a pedestrian shopping precinct as at Lansbury.

The market in Salmon Lane has ceased to flourish of recent years on account of the severe war damage to the shopping centre. It is anticipated, however, that when the shops are redeveloped the market will again become active and provision has been made for the siting of stalls.

Prior to the war, there were approximately 65 shops in Salmon Lane south of Galt Street. It is proposed that 24 shall be erected, all within the first period. Three public houses are provided for in the shopping centre. Two of these are existing houses considered suitable for retention.

Industry and Commerce

The existing industrial area along the north bank of the Limehouse Cut is to be retained. The Council will erect in the first stage a combined Maintenance Depot and District Office for the Housing Management Department.

Open Space

The neighbourhood lies at the southern end of the belt of open space connecting with Victoria Park on the north and including King George's Fields. This belt of open space terminates in the existing Brickfield Gardens, which it is proposed should be reconstituted. The first period proposals include the laying out of approximately 2½ acres of open space which will eventually be doubled in extent as further land is acquired.

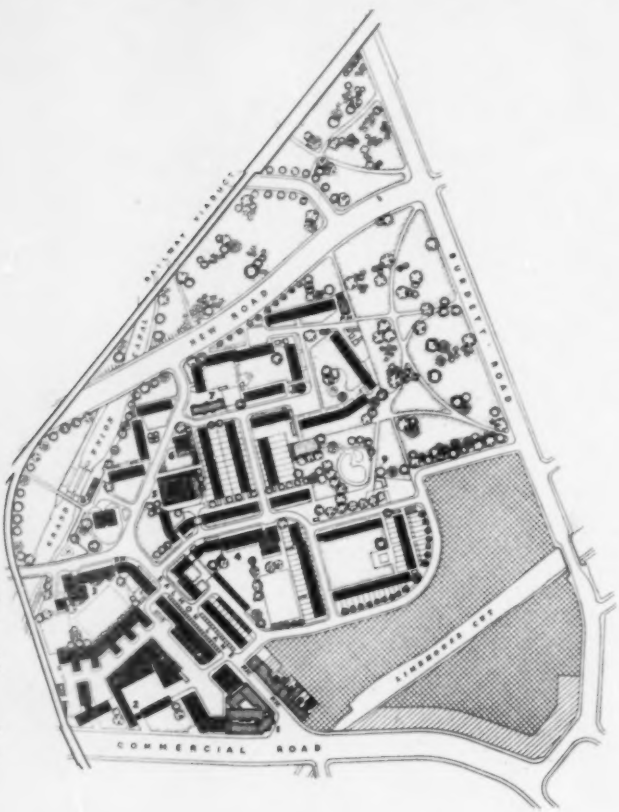
A small area of open space along the banks of the Grand Union Canal is eventually to be provided, and it is considered that this, together with the Canal itself, will form an attractive setting for the 15-storey point block.

In addition to the major open space, areas of local open space will be provided to serve the various housing groups.

Housing

The housing development proposed in the first stage may be divided into five groups each with its own special characteristics. Apart from providing individuality, these groups taken together will add interest to the scheme.

BEFORE RE-DEVELOPMENT



ULTIMATE LAYOUT

St. Anne's Neighbourhood, Stepney

Group A

The group comprises three blocks of flats, forming three sides of a square. The northernmost block is five storeys in height and the others three storeys. Vehicular access is from the surrounding roads with footpath connections round and across the square. The latter will be turfed and a children's sand-pit provided. A group of tenants' stores will be located in the N.E. corner. In addition, a sunken terrace is proposed in the S.E. corner, which will be paved except for flower beds. Seats will be provided and it is hoped that this terrace will form a suitable setting for a commemorative tablet.

This group includes the existing 5-storey block of flats known as Dora House belonging to the Stepney Borough Council. This is a substantial building and is located in the S.W. corner of the group.

Group B

The group comprises an eight-storey block running in a N.W.-S.E. direction and a three-storey block running east to west; the two blocks being approximately at right angles to one another. The eight-storey block has been designed to take advantage of the proposed open space extension on the eastern side and a substantial area of local amenity open space formed by the angle of the two blocks. The living rooms of the eight-storey block have a S.W. aspect over the local amenity open space whilst the three-storey flats have a south aspect over Brickfield Gardens. The scheme entails the closing of Spenlow Street and a portion of Locksley Street. The latter will be incorporated into the open space. Access to the eight-storey block will be from a short length of service road leading from Clemence Street in the first stage. When Clemence Street is ultimately closed, this service road will be reached from Dora Street. Access to the three-storey block will be from Dora Street.

The central feature of the landscaping scheme for this group will be a children's play sculpture set in a sand pit in front of the 8-storey block. The sculpture will be in the form of a "Gulliver", i.e., a reclining figure over which and through which children will crawl, slide and swing. It will be constructed on the site in concrete over a metal framework.

Group C

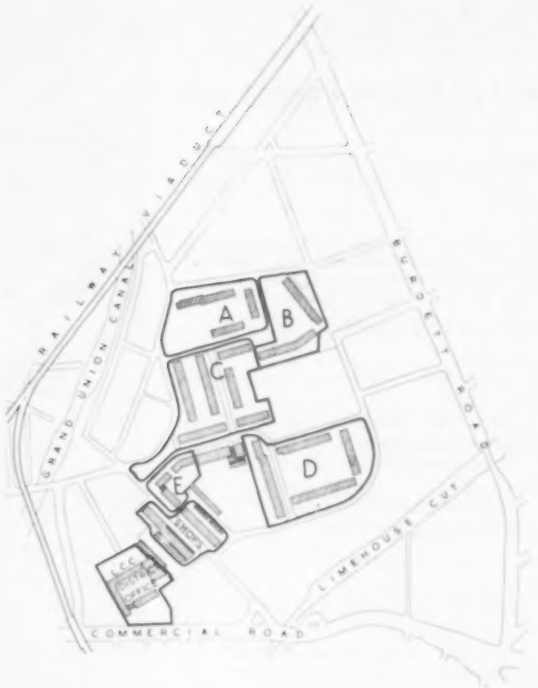
This group is distinguished from the others by the inclusion of terraces of two-storey houses of the 4-bedroom type. The other types in this group are three-storey flats. The houses are planned to run in a north to south direction each with private gardens.

The three-storey flats are arranged in an east to west direction. A new road is to be constructed running north to south dividing the group into roughly two equal sections and flanked by houses on either side. Tenants' stores are provided behind the flats and the area surrounding them will be turfed.

Group D

This group is arranged in the form of a square, the main feature of which is an 8-storey block on the northern side. The other three blocks are 4-storey maisonnettes with private gardens of varying sizes. Service to the 8-storey

FIRST STAGE LAYOUT



KEY TO GROUPS

North points up the page

KEY TO LAYOUT PLANS

1. Empire Memorial Hostel. 2. L.C.C. District Office and Depot. 3. Our Lady R.C. Primary and Nursery School. 4. St. Anne's C.E. Primary School. 5. Edinburgh Castle Mission (Methodist). 6. Nursery School. 7. Dora House. 8. Salmon Lane Lockhouse. 9. Brickfield Gardens. 10. Temporary Cycle Track.

block is from a new service road to run between the block and Brickfield Gardens. A new length of public street will also be constructed to run in a north to south direction to connect with Copenhagen Place. This will serve the maisonnette block on the western side of the square. The other two maisonnette blocks are to be served by footpath connections with these service roads. The square itself will be turfed and a children's playground provided.

Group E

This is a small group forming a link between the northern end of the shopping centre and the proposed primary school. It consists of two 3-storey blocks set at right angles to one another and linked with a staircase unit. There will be a way through on the ground floor of one of the flats in the northern area leading to the rear of the shops and the garages. Both the area contained by the angle of the blocks and the area in front of them will be turfed. Vehicular access will be from a new service road to be constructed from Salmon Lane.

Exact details of accommodation are not yet available for this group but it is likely to be as follows:—

Subsequent Development

The remaining housing development to be carried out at a later stage will, as at present envisaged, include a 15-storey point block which will give emphasis to the shopping centre at its north-west end. This will be complementary to the tower of St. Anne's Church, Limehouse, at the south-east end, although the latter is situated just outside the neighbourhood.

Other blocks to complete the neighbourhood will all be of 3 storeys and a number of these have been designed to take advantage of the canal-side open space in conjunction with the point block.

Public Buildings and Schools

There is one public building within the neighbourhood at present which will remain in the ultimate scheme. This is the Sailors' Club and Hostel at the corner of Salmon Lane and Commercial Road.

The ultimate scheme indicates a proposed church to replace the Edinburgh Castle Methodist Mission now situated in Rhodeswell Road just outside the neighbourhood.

Two primary schools and a nursery school are planned but only one of these, the St. Anne's Church of England Primary School is likely to be commenced within the first period. This will be for 320 children. The other primary school will be the Our Lady R.C. School on the south side of Salmon Lane. This will accommodate 240 children but is unlikely to be built until the 13-17 years' period. A separate nursery school is also to be provided at the junction of Galt Street and Dora Street in the 8-12 years' period. This will achieve an attractive low group of buildings in the centre of the neighbourhood contrasting with the 15-storey point block nearby.

St. Anne's Neighbourhood Stepney

The planning of the Neighbourhood Unit and the constructional work are under the direction of the Architect to the Council, J. L. MARTIN, assisted by the following:

Planning Division

A. G. LING,
Senior Planning Officer (until May, 1955)

L. W. LANE,
Senior Planning Officer (since May, 1955)

P. JOHNSON-MARSHALL,
Reconstruction Group Planning Officer

W. G. BOR,
Architect/Planner in Charge

H. N. ALLEN & P. McKAY

Housing Division

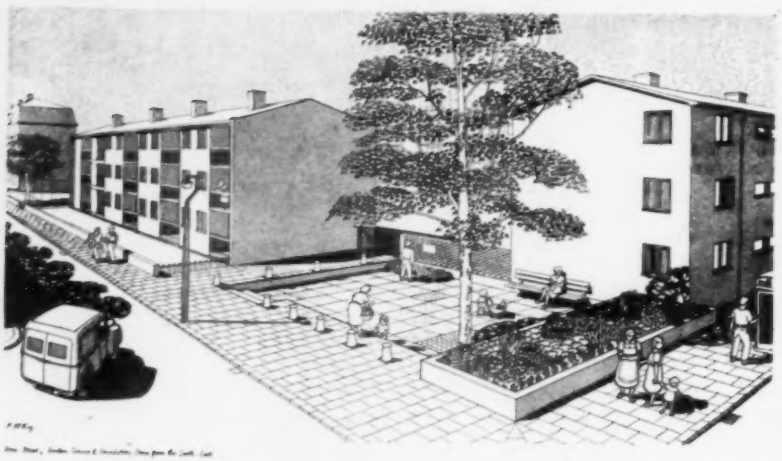
H. J. WHITFIELD-LEWIS,
Principal Housing Architect

M. C. L. POWELL,
Assistant Principal Housing Officer

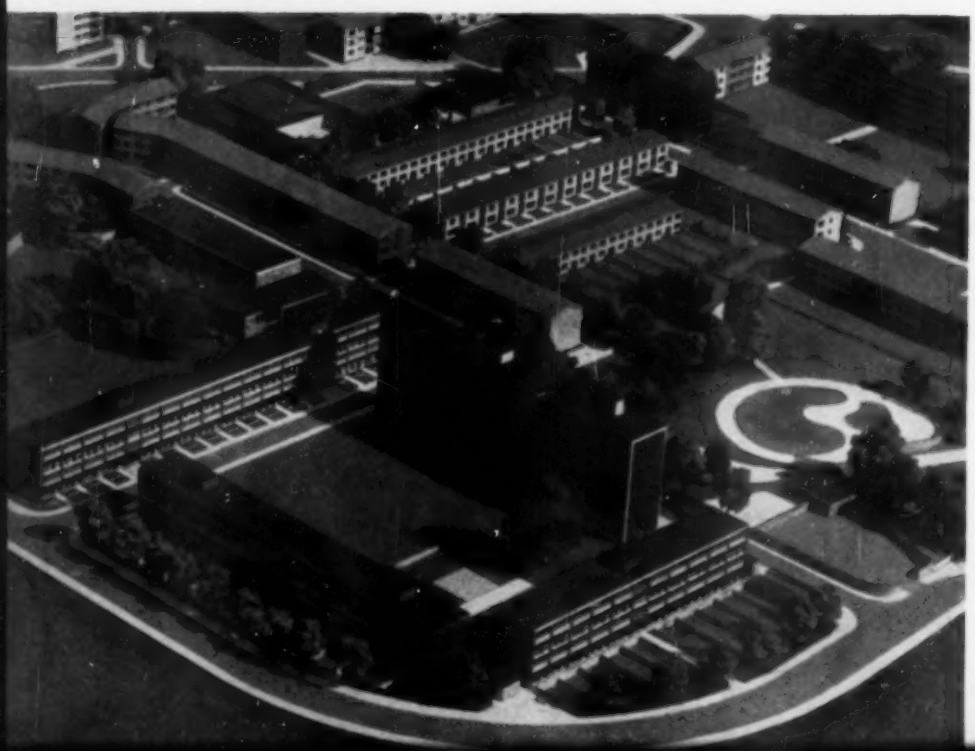
E. HUMPHREY,
Architect in Charge

A. W. BUTLER; J. W. PARSONS; Miss C. A. FORTLAGE

Other aspects of the work are under the direction of the following: New roads and road improvements: Chief Engineer, J. RAWLINSON, C.B.E.; Acquisition of land and clearance: Valuer to the Council, J. E. J. TOOLE; Open space and general landscaping: Chief Officer of the Parks Department, L. A. HUDDART.

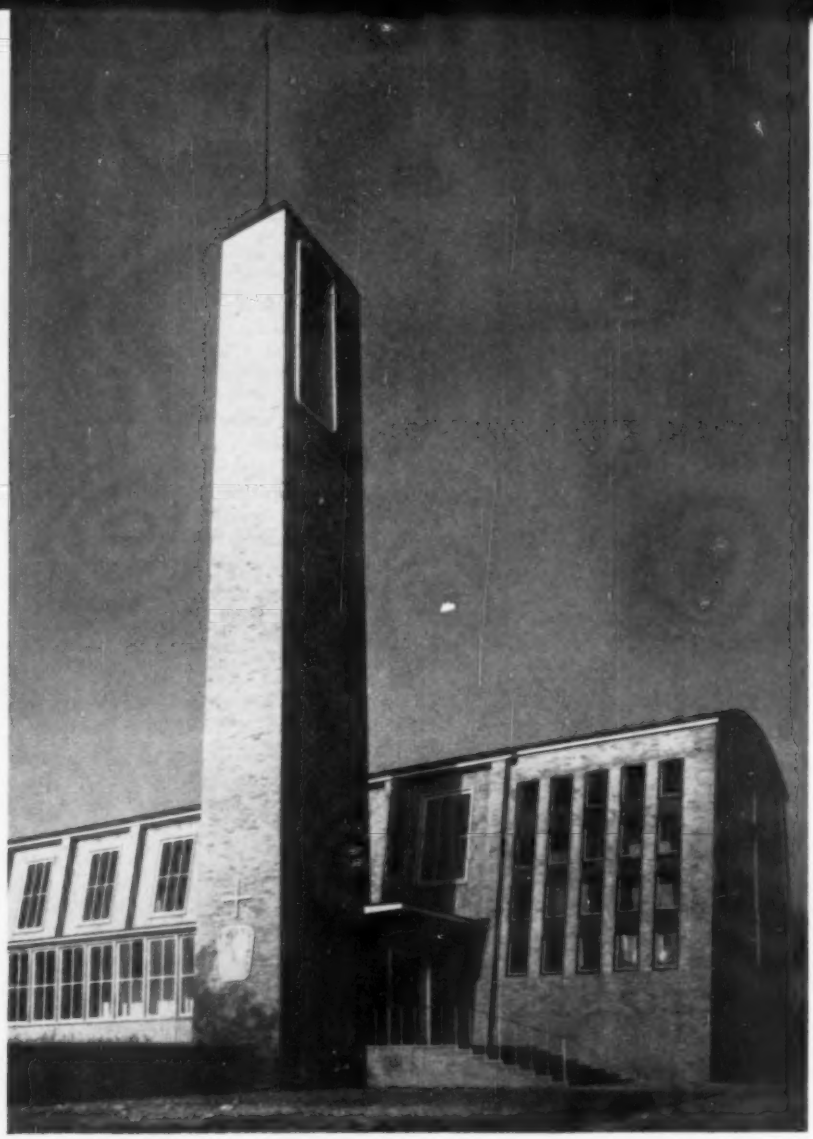


EIGHT STOREY BLOCK FROM DORA HOUSE



Top: Dora Street, Sunken Terrace and Foundation stone from the south-east. Above: Eight storey block from Dora House.

Kidney shaped pool in Brickfield Gardens and Group D in foreground.



SAINT NICHOLAS CHURCH, COVENTRY

architects:
LAVENDER
TWENTYMAN
& PERCY

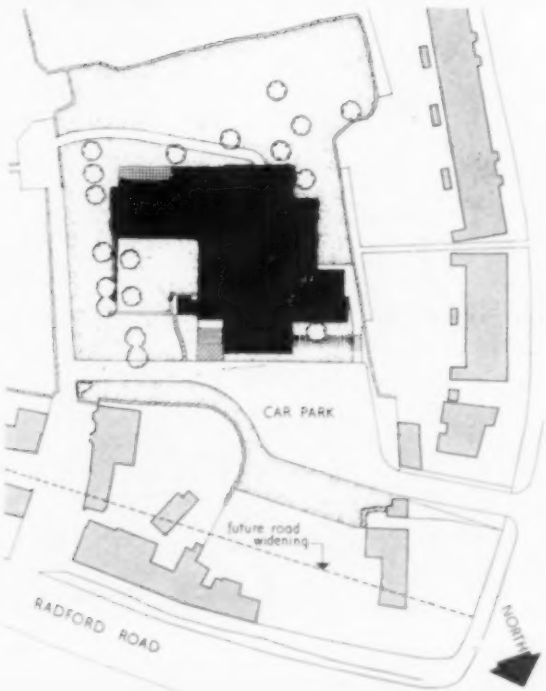
THIS church was built to replace a Victorian one destroyed in the air-raid on Coventry in 1940. It is sited to allow of future road-widening and the demolition of some of the houses between it and the main road. The hall was designed as part of the composition, but has not yet been built.

Planning

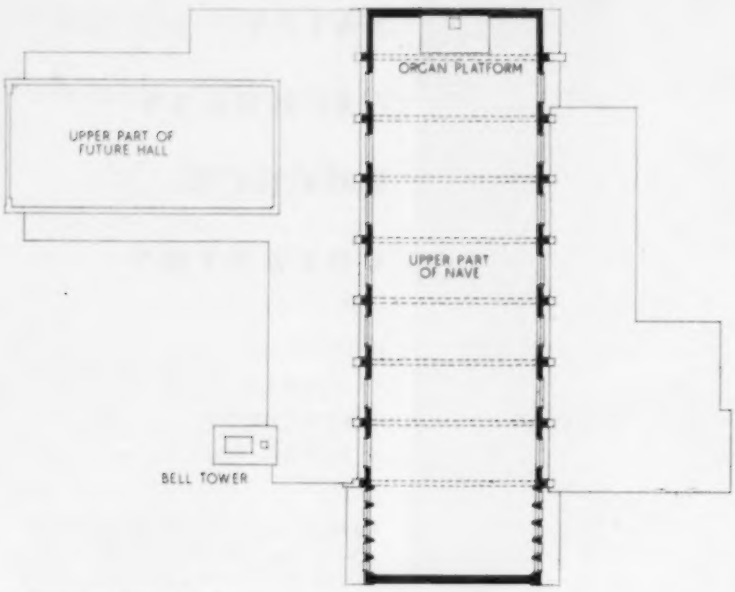
The church is planned to seat 334 in the nave, 54 in the Lady Chapel and 48 in the choir, a total of 436. This rather large choir was required to be placed between the Sanctuary and the congregation, without impeding the view of the altar, but side galleries of transepts for the choir were not desired. The result of this requirement was the planning of nave, choir and sanctuary, all 40 feet wide.

A further requirement was a large vestibule for use in conjunction either with the church or with the future hall, and this is planned alongside the nave. The organ is placed at the west end on a platform cantilevered out from the exit porch; the console is placed in a recess adjoining the choir.

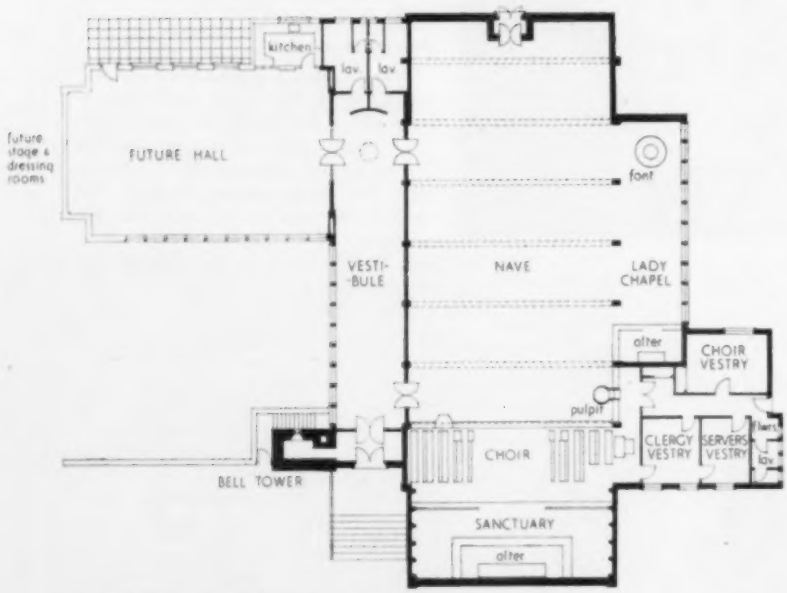
A wide nave tends to present aesthetic difficulties, as an appropriate height is almost always too expensive. The section adopted, with walls sloping inwards at 10deg from the vertical, helps to solve this problem as, although the ceiling is only 28ft 6in above the floor at its highest point, it does not appear too low and the general effect inside is of spaciousness and height. Structurally the sloping walls presented no problems, but owing to their exposure to rain, special measures had to be taken to



St. Nicholas Church, Coventry



UPPER LEVEL PLAN



GROUND FLOOR PLAN
SCALE: 1 IN - 32 FT

keep out water and the detailing round windows had to be very carefully considered.

Construction

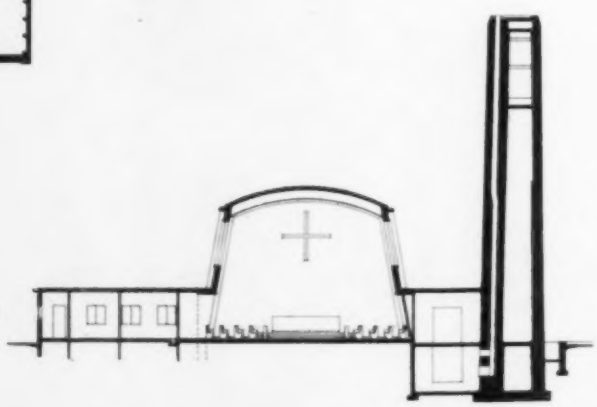
The construction of the main part consists of a series of reinforced concrete frames at 12ft centres with legs sloping at 10deg from the vertical. Connecting the frames are 6in concrete membrane walls, lined on the inside with woodwool slabs and on the outside with 4½in brick, with a waterproof membrane between the concrete and the brick. The main roof is of reinforced concrete, lined with woodwool slabs and covered with copper; flat roofs are of concrete covered with woodwool slabs, screed and asphalt. The walls at each side of the sanctuary are constructed as a concrete grid with splayed reveals to diffuse the light. The tower is of solid brick construction and contains two bells and the central heating flue.

External Finishes

The bricks are 2¾in golden buff and panels between frames are in basket pattern bond. The concrete mullions to the Chapel and vestibule are faced with cast stone and the nave windows have cast stone surrounds. Westmorland green slate is used round the sanctuary windows and as facing to the wall surrounding the main doors. The east end is faced with 3in thick Doulting stone with a diamond-shaped pattern of V joints and is held to the brick wall with bronze cramps. The nave windows are of teak and the remainder of galvanised steel.

Internal Finishes

Nave: the ceiling consists of 7in x 1½in shaped African walnut boards with 1in gaps between for acoustic absorbence. The upper parts of the walls are covered with rough-textured plaster except the west wall which is covered with an acoustic material.



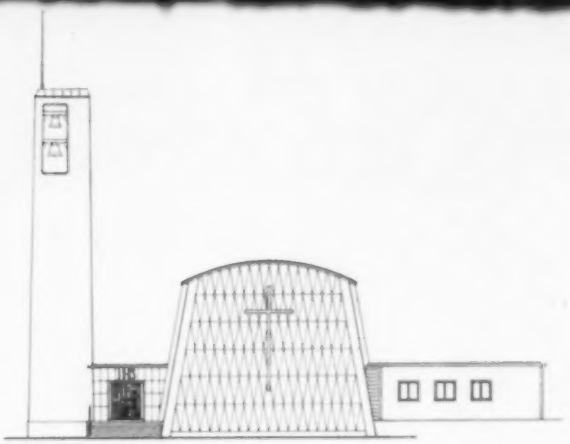
CROSS SECTION

The walls between the piers on the south side are panelled in sapele-faced blockboard. The floor is of Granwood blocks.

Sanctuary: the ceiling is of metal lathing, plastered and painted blue. The east wall is panelled in blockboard, veneered in walnut with raised diamond-shaped panels in grey sycamore; the cross and inset strips between panels are in solid mahogany. The floor is of Hornton stone.

Chapel: the west wall is faced with reeded African mahogany and the east wall has a blue and white curtain behind the altar. Other walls are plastered and emulsion painted, as is the ceiling.

The sanctuary floor is of Westmorland green slate and this material is also used as an inset circle round the base of the font. The font itself was rescued from the debris of the old church and repaired, and a new cover designed for it. Above the font is a dome in the concrete roof, painted blue.



FRONT ELEVATION

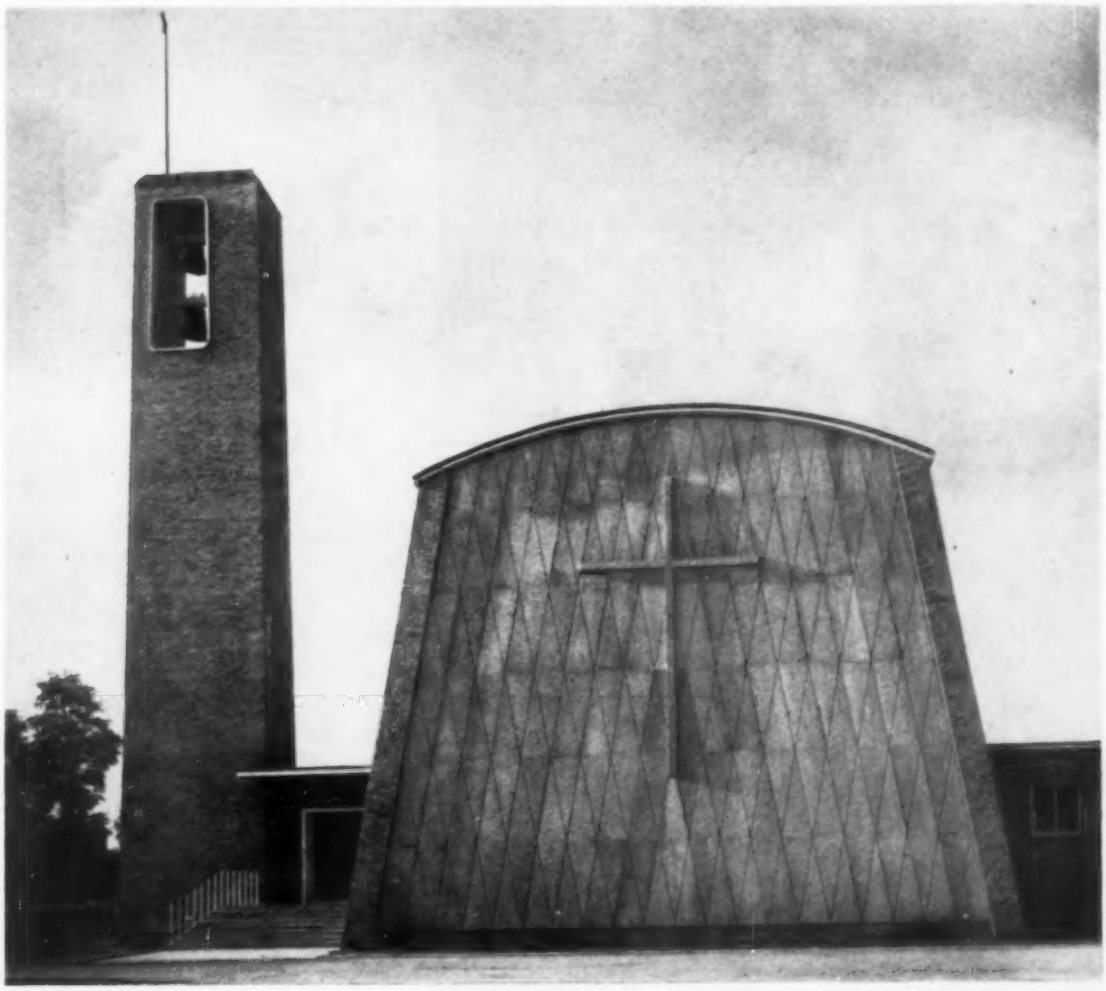
Vestibule: finishes here are as in the Chapel, except that the floor is in gurjun blocks and the north wall is covered with wall paper. The screen at the end is of grey sycamore and mahogany with the diocesan crest made of hardwood, painted.

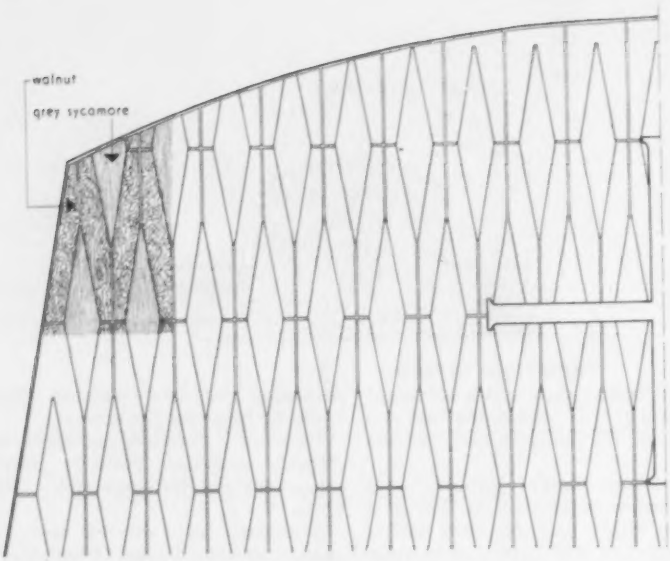
Furniture: furniture generally is African mahogany with a small amount of grey sycamore and a little brass.

The pulpit has a concrete base and the side consist of strips of mahogany fixed to a curved plywood lining.

Continued on p. 814

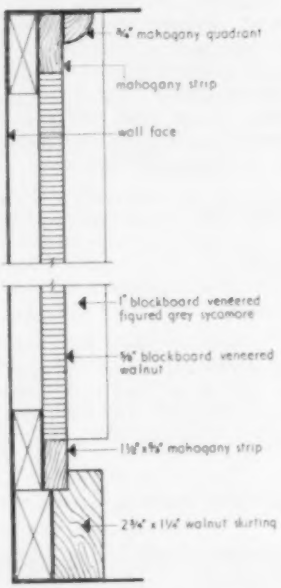
North-east elevation. Gable wall of Doulting stone

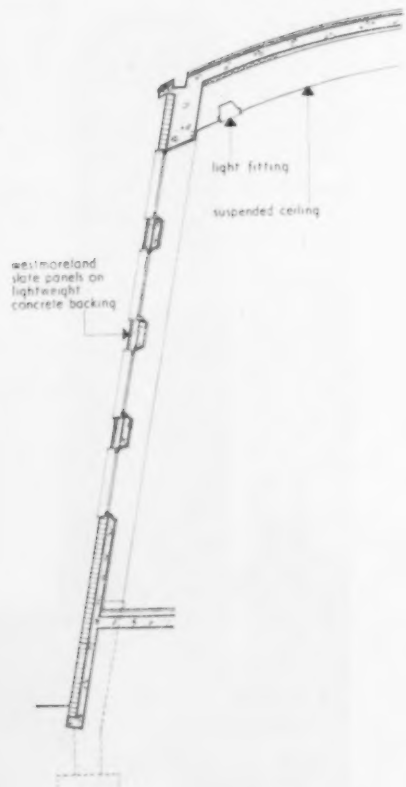




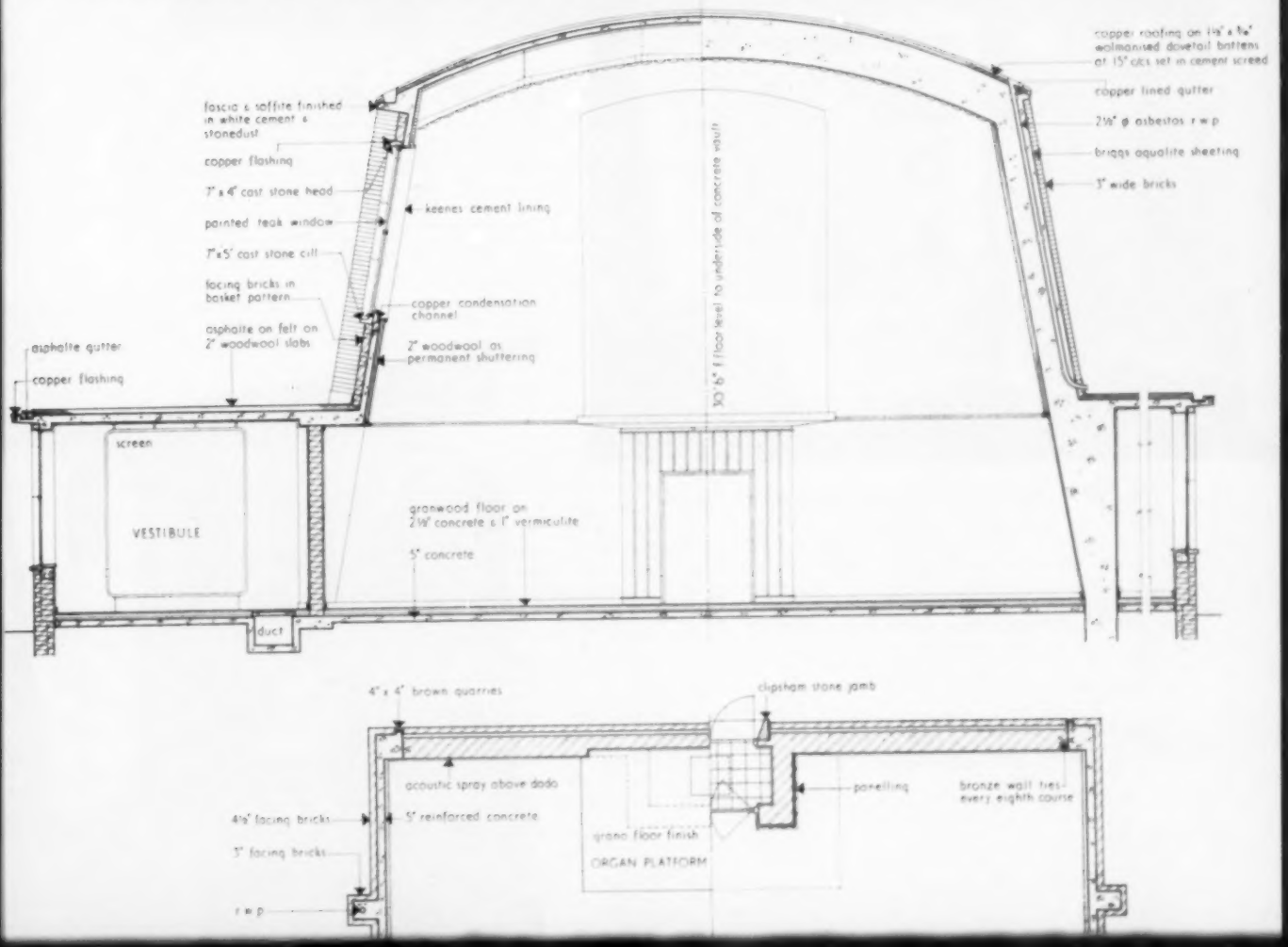
Part elevation of Sanctuary wall. Scale : 1 in = 4 ft

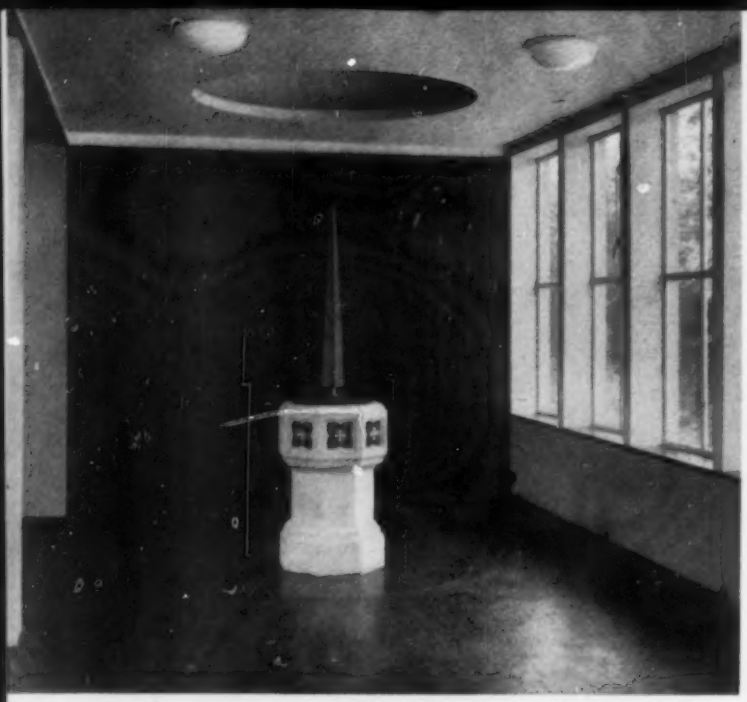
Panelling,
Sanctuary wall
Scale : 1/4 F.S.





SCALE: 1in = 8ft


copper roofing on 1⅛" x ⅞" galvanised dovetail battens at 15" ctrs set in cement screed
copper lined gutter
2½" ø asbestos r w p
briggs aqualite sheeting
3" wide bricks
fascia & soffite finished in white cement & stonedust
copper flashing
7" x 4" cast stone head
painted teak window
7"x5" cast stone cill
facing bricks in basket pattern
asphalte on felt on 2" woodwool slabs
asphalte gutter
copper flashing
keenes cement lining
copper condensation channel
2" woodwool as permanent shuttering
30'6" f floor level to underside of concrete vault
screen
VESTIBULE
granwood floor on 2½" concrete & 1" vermiculite
5" concrete
duct
4" x 4" brown quarries
clipsham stone jamb
acoustic spray above dado
4½" facing bricks
5" reinforced concrete
3" facing bricks
r w p
granwood floor finish
ORGAN PLATFORM
panelling
bronze wall ties every eighth course



The Baptistry. Font from previous church re-used, with new cover

The Pulpit. Mahogany strips fixed to a carved plywood lining

Lady Chapel Sanctuary. Altar and altar rails of mahogany and grey sycamore. Floor of green slate

St. Nicholas Church

Continued from p. 811

Services

Except for the vestry block which is heated by radiators, all the heating is by invisible panel warming in the floors. These are of the sandwich type with a vermiculite layer in the middle to prevent heat losses downwards. The heating is by an oil-fired plant. Auxiliary heating by electric tubes is provided in the chapel so that it can be warmed up quickly for weekday services.

The sanctuary is lit by ten fittings recessed in the ceilings. The nave fittings were specially designed and are suspended from the ceiling by piano wire.

Cost

The contract figure in 1953 was £39.909. This included furniture (with the exception of the chairs in the nave), bells and site works. The organ, costing about £2,500, was not included in this figure.

Quantity Surveyors: Henry Vale & Son

General Contractor: E. Fletcher Ltd.

Subcontractors:

Acoustic Material: May Acoustics Ltd. *Altars, Bishop's Chair, Litany Desk, Credence Tables, etc.:* Pancheri & Son. *Asphalt Roofing:* Limmer & Trinidad Lake Asphalte Company. *Bells:* John Taylor & Co. Ltd. *Cast Stone Surrounds:* The Gloucester Stone Company. *Concrete Reinforcement:* Twisteel Reinforcement Ltd. *Copper Roofing:* Holloway Metal Roofs Ltd. *Diocesan Crest:* The Coventry School of Art. *Doulting Stone Facing:* The Bath & Portland Stone Firms Ltd. *Electric Lighting:* Lee Beesley & Co. Ltd. *Facing Bricks:* Himley Brick Company. *Flooring: Granwood*—Granwood Flooring Co. Ltd.; *Hardwood Block*—J. A. Hewetson Ltd.; *Accotile*—Rowan & Boden Ltd. *Flush Doors:* Southerns Ltd. *General Joinery, including choir stalls, pulpit and all panelling:* Ray Westwood (Lye) Ltd. *Heating:* G. N. Haden & Sons Ltd. *Locks, Door Furniture, Entrance Balustrade:* James Gibbons Ltd. *Metal Windows:* John Thompson Beacon Windows Ltd. *Organ:* Nicholson & Co. Ltd. *Other Light Fittings:* Troughton & Young (Lighting) Ltd.; The Merchant Adventurers Ltd. *Sanitary Fittings and Domelights:* A. D. Foulkes Ltd. *Special Light Fittings:* E. Heffer & Co. Ltd. *Slate Facings and Flooring:* W. H. Fraley & Sons Ltd. *Turfing:* B. A. Fells, Coventry. *Waterproof Membrane and Damp Courses:* William Briggs & Sons Ltd.

EASTHOUSES HALL-CHURCH, DALKEITH

for the Church of Scotland Home Board

THE term "Hall Church" is simply a convenient phrase to describe the type of dual-purpose building which the National Church of Scotland Extension Committee is now erecting in the new housing areas. A Hall Church is both a Church and a Church Hall. The Hall Church which is erected first will it is hoped, at some later stage, be converted into a Church proper, i.e. a building used exclusively for worship. This will be done when it is found possible to erect a Church Hall alongside the building now being planned.

As a result of the expansion of coal-mining in the Lothian region of Scotland, a large increase in population is expected during the next few years. Easthouses has been developed as a new community to meet this expansion. The Hall Church, to seat approximately 400, forms part of a group of community buildings, shops, etc. in the centre of the new housing area. The Church and Manse are the first buildings of this group to be completed.

The layout shows a small square for pedestrian use in which all vehicular traffic is kept to the rear of the shops. The Church is placed at a strategic corner in this square.

On account of the dual purpose of the Church and lack of funds to build a hall at the start, certain restrictions have been imposed in the design of the building which will eventually be removed when it is completed, i.e. the stage will be removed and a gallery substituted for it when the hall is built at the farther end of the building. At present a small Sunday School room acts as a hall for anything but the largest meetings when the Church nave is used.

Construction is traditional, 11in hollow walls, Tyrolean rendered, pan-tile roof on purlins carried on a welded portal frame, one leg of which is exposed forming a separation between aisle and nave. The open ceiling is lined with mahogany strip boarding. Stone has been used for the tower and at the sanctuary flanking walls. The sanctuary itself is lit by a large window from one side only which gives ample lighting without glare. The stone wall at the window side acts both as a light baffle and a screen to hide the curtain which comes across the sanctuary when the Church is used for secular purposes. This curtain has been hung from the ceiling by means of a light "hospital type" runner. The flooring is of beech in the nave and of precast concrete blocks in the sanctuary, aisles and entrance hall. The organ is electronic and the amplifier is concealed behind the grille above the console in the sanctuary.

The Manse is of similar walling and roofing materials as the Church and is of normal construction. Modified central heating has been provided and shutters are included on the living room windows on the ground floor in view of the extremely exposed nature of the site which lies at some 600 ft.

ARCHITECT: ALAN REIACH, A.R.I.B.A.
ARCHITECT IN CHARGE: GEORGE A. MACNAB, A.R.I.B.A.
ASSISTANT: IAN HALL.
CONSULTANT ENGINEER: T. H. HADDOW, A.M.I.Struct.E.

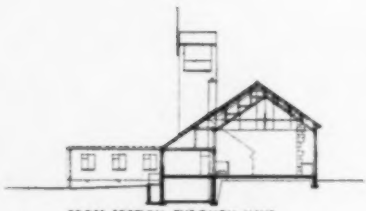
Easthouses Hall-Church, Dalkeith

ARCHITECT: ALAN REIACH

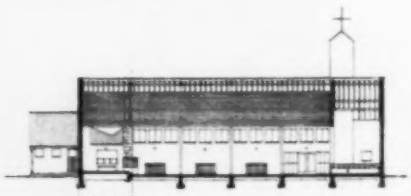
PLAN OF MANSE

CONTRACTORS:
Excavator, Brick and Concrete: N. H. P. Thomson, Dalkeith. *Joiner*: Alex Kent, Edinburgh. *Plumber*: Patrick Knox & Son Ltd., Edinburgh. *Electrician*: Miller & Tait, Edinburgh. *Roof Tiler and Harling*: Wm. McLean, Leith. *Painter*: D. C. Smith, Edinburgh. *Central Heating*: Taylor & Fraser, Glasgow.

Tender price (Church only) approx. £16,000.
Manse (estimated at Schedule Rates) £4,200.

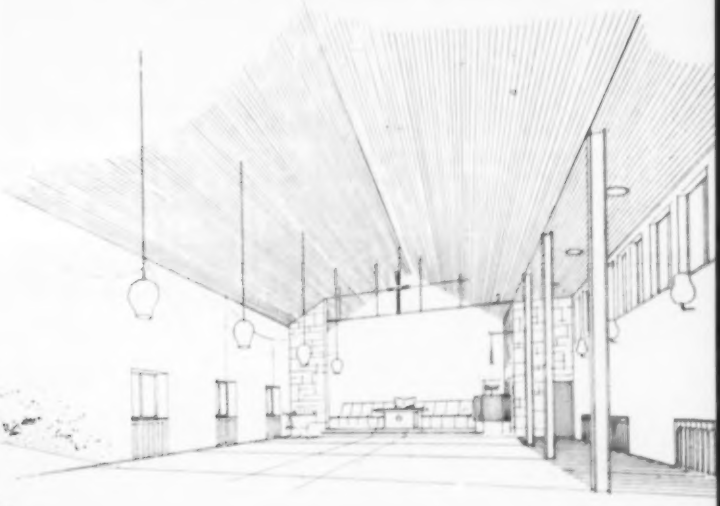


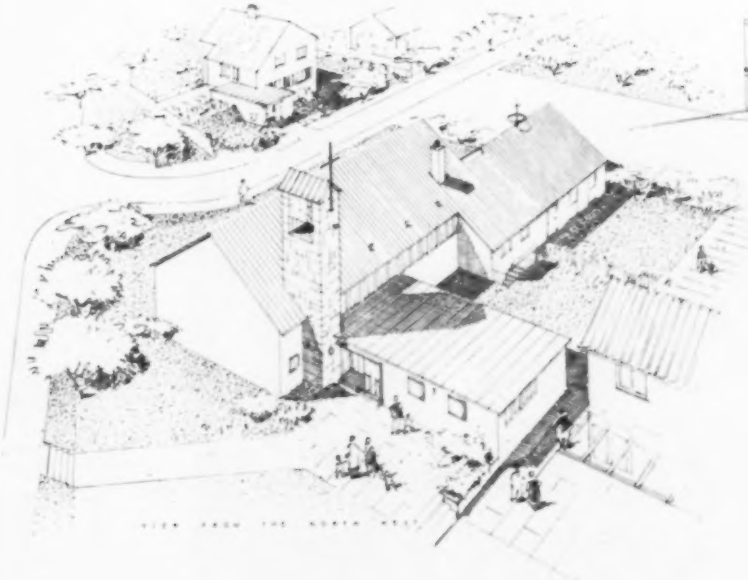
CROSS SECTION THROUGH NAVE

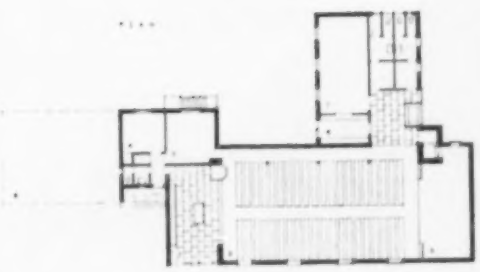


LONGITUDINAL SECTION

View looking towards Sanctuary



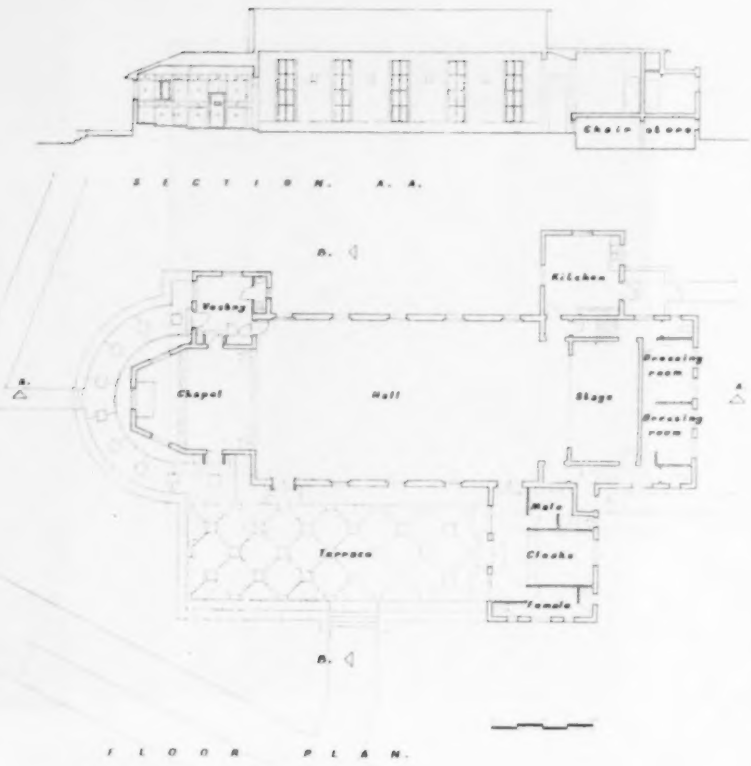




KEY : 1. Sanctuary. 2. Nave. 3. Stage. 4. Vestry. 5. Session Room. 6. Kitchen. 7. Small Hall. 8. Future Extension.

St. Barnabas dual purpose Hall at Three Bridges Sussex

ARTHUR W. KENYON
Architects and
Consulting Engineers

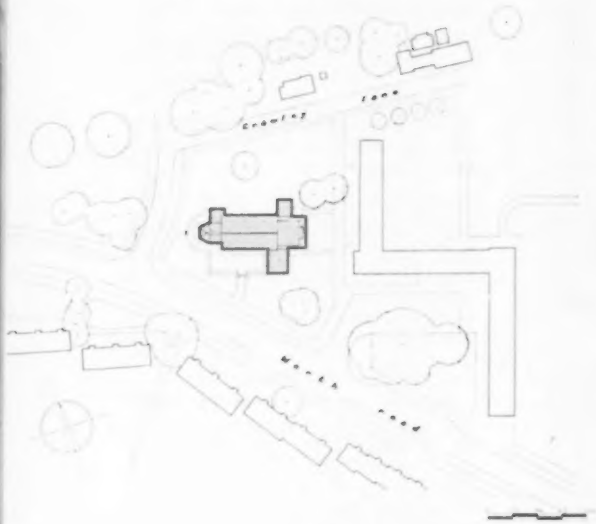


THREE Bridges is one of the neighbourhoods of Crawley New Town, and the architects were asked to design a dual-purpose hall to serve this area.

The basic requirements were for a small self-contained chapel which could be used either for small services or as the chancel when the whole hall was in use as a church; a hall to seat 250; a stage; and other rooms suitable for dressing rooms, committee rooms, kitchen etc. It was essential to keep the cost to a minimum, and at the same time provide a permanent building with low maintenance costs. For this reason it was decided to keep the whole structure as simple as possible and provide a high standard of finishings.

As the housing and shops near to the hall are in brickwork, it was considered that a simple design in brick was most suitable for this building. Two-inch facing bricks, rising five courses to a foot, were chosen, and as cavity walling was decided upon for economy, a stretcher bond was used, but a 2½in "slip" was taken in lieu of the normal 4½in, to accentuate

SECTION B.B.

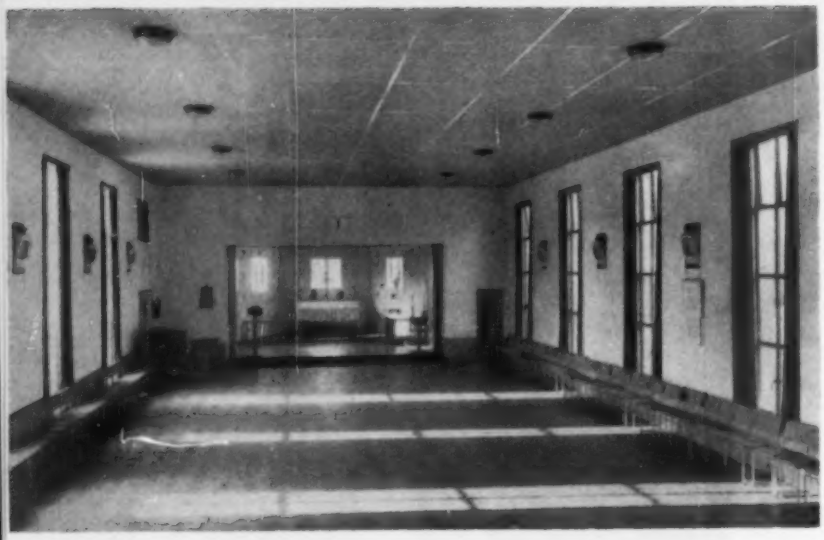


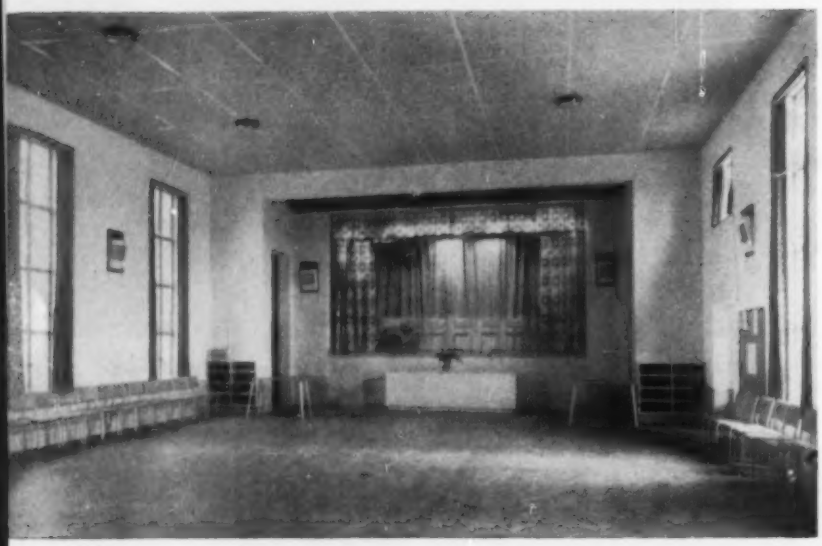
SITE PLAN.

the vertical lines of the building. A precast concrete plinth with exposed aggregate was used to give a base to the main structure.

View across terrace showing entrance to Chapel

The Chapel





St. Barnabas dual purpose Hall

Top picture : view of Hall looking towards Chapel.

Lower picture : view of Hall looking towards Stage.

The roof is carried on steel trusses and purlins, and consists of a boarded roof with pantiles. The ceiling of the main hall is insulating board on metal tees suspended from the rafters. The flat roofs to the kitchen, stage, etc., are in reinforced concrete with a plastered wood wool panel on the underside which acts as shuttering and insulation. The chief concern in these rooms was to avoid condensation, especially having in mind a sudden rise in temperature when the fabric was cold, and for this reason as much insulation as possible was provided.

The stage floor is of timber boards on timber joists, and the space under has been designed as a chair store: it is also now used by the local Scouts as a store and workshop.

Heating

Considerable thought was given to the best method of heating the various parts of the building, and it was finally decided to use gas radiant panel heaters in the hall itself, as these appeared to give the simplest form of installation which is easily controlled and also provides for the rapid build-up of temperature which is needed in this type of building with its intermittent use. These heaters also obviate the difficulties of stoking, coal delivery etc. which are involved in solid fuel central heating systems. In the entrance halls, chapel, vestry etc., where this form of heating is not so convenient, electric convectors have been used.

Stage

The stage has been arranged so that it can be used for all amateur dramatics and other similar purposes, and it is equipped with sufficient aids, such as electric points and rails for curtains so that it can easily be adapted by local efforts to various purposes.

A complete switchboard with dimmers etc. has been provided adjacent to the stage.

Furnishing

The furnishing was included in the final contract and comprised such items as curtains, chairs and all the chapel furniture, including altar rails, lectern, priest's desk and chair, font etc., which are all simple in design.

External Paving

In order to give a setting to the building, which is otherwise sited in the middle of the grassed area, a small terrace was formed. Considerable thought was given to the method of paving this, and it was finally decided to use a concrete paving in bays, using a textured concrete. Valuable help was given on this by the Cement and Concrete Association with the result that the method chosen was a normal concrete base on to which pinkish granite chippings were spread and tamped in. The excess of concrete slurry which came up was brushed up and the whole area thoroughly washed to give a roughened texture of a pinkish nature. The expansion joints were then raked out and filled with bitumen. Between the rough squares a smooth precast paving slab was laid to assist in the patterning.

Cost

The total final cost of the building, including site works, furnishing etc., is £16,200.

Quantity Surveyors
Messrs. H. J. Venning & Partners.

General Contractors
Messrs. Bishop & Clarke Ltd.

SUB-CONTRACTORS:

Facing Bricks: Henry Greenham (1929) Ltd. *Roof Trusses*: Matt. T. Shaw & Co. Ltd. *Electrical Installation*: Electric Contracts Ltd. *Fine Finish Concrete*: Girlings Ferro-Concrete Ltd. *Flooring Blocks*: Hollis Bros. Ltd. *Ironmongery*: H. & C. Davis & Co. Ltd. *Precast Concrete Facing Blocks*: Malacarp Terrazzo Co. Ltd. *Kitchen Fitments*: Jayanbee Joinery Ltd. *Sanitary Ware*: John Bolding & Sons Ltd. *Insulation Board*: Wiggins-Sankey Ltd. *Stage Furnishing and Curtains*: G. B-Kalee Ltd. *Chapel Furniture*: George M. Hammer & Co. Ltd. *Chairs*: Hostess Tubular Equipment Ltd. *Folding Door Gear*: Henderson Ltd. *Foundation Stone*: Anselm Odling & Sons. *Steel Windows*: C. E. Welstead Ltd. *Gardening Work*: Joseph Brooke & Sons.

THE McMORRAN REPORT — Part III

Composite Courses and Design Examinations

THE Council of the R.I.B.A. are to be congratulated on the bold approach which they have made in connection with the future of architectural education. The proposals should have far-reaching effects on the future of architecture, if architects play their part in the fulfilment.

It will be recalled that the long-awaited report on architectural education, known as the McMorran Report, was approved in the main by the R.I.B.A. Council last February. Two important sections, 20 and 30, were, however, remitted for further study by a sub-committee of the Council and the Board of Architectural Education.

A summary of recommendation 20 is "that the Board should adopt certain conditions for the purpose of recognising part-time courses for exemption from the R.I.B.A. Examinations". The Council have now approved in principle the recognition of exemption from the R.I.B.A. Examinations of part-time courses (to be described in future as composite courses) provided they are set up and administered by Schools of Architecture holding full-time courses recognised for exemption from the R.I.B.A. Intermediate and Final Examinations. The schools concerned will be expected to collaborate with the R.I.B.A. Allied Societies and architect-employers in their areas in ascertaining the demand for such composite courses, arranging for the release of students to attend school, and keeping the R.I.B.A. informed of the proposals. The R.I.B.A. Visiting Board, following normal procedure, will inspect and report upon composite courses for which recognition is sought.

The Council have done their part and it is up to the Schools of Architecture, architects in both private and public offices and also the Allied Societies to play their role. Will they? Perhaps I am looking on the dark side but I have my doubts whether the support will be given to make this proposal a success.

The full-time lecturers at Schools of Architecture still, I am informed, have a habit of treating with a certain amount of cold contempt the part-time students. I hope that this attitude will die and that they will look upon this recommendation as an opportunity to raise the whole standard of architecture.

How easy for the Schools, should they be so minded, to make this proposal ineffective. Note the words "the schools will be expected to collaborate with the R.I.B.A. Allied Societies and the architect-employers in their areas in ascertaining the demand for such composite courses". A letter to the Allied Society in cold official language and the Allied Society leaves it to employers to state their views. This request is either ignored or a vague reply given—and the external student is left to struggle as he has done for the last half century.

Might I suggest that the Schools work out, in some detail, the proposed course and put this before the Allied Societies and also to every architect? It should state the days a boy will have to attend. This is important for the employers of labour.

Will employers be willing to let their young architectural assistants avail themselves of this opportunity? I wonder. It will be interesting to see the response from both private and public offices.

In the latter connection it might be advantageous if the B. of A.E. discussed the question with N.A.L.G.O. Juniors in public offices are paid on a wage-for-age basis. Looking back to the date when many of us were trained, they are well paid for the first two years. Unless there can be some adjustment in this rather rigid set-up there is going to be conflict between other wage-for-age groups who are not given time off to study and so advance their chances of promotion. I have little doubt that any junior anxious to improve his position in the profession would be willing to accept a lower salary if he was allowed one or two days a week off to study at a School of Architecture.

It is obvious that if this proposal of the A.R.I.B.A. is to work and work effectively all branches of the profession will have to re-orientate their ideas. There will have to be a fresh approach. There is an obligation on the heads of private and public offices to play their part, not only in releasing students for study but also in leaving their easy chair of complacency to this subject of education. They will, or rather should, shoulder some of the responsibility. It is now a joint partnership between school and office. Might I suggest to the B. of A.E. that they could play a most effective part by setting out the proposals, and obligations of us all by issuing a small pamphlet on the lines of "The Architect and His Work".

There are three other important changes in this report. The first is that the Council has rescinded their policy on the distribution of Recognised Schools of Architectural Education approved in 1944. This will enable Schools of Architecture (including "listed" schools) to apply for recognition for exemption from the R.I.B.A. examinations for their full-time courses.

The second is that the Council have given approval for full-time and part-time students both in "listed" schools and schools recognised from exemption from the R.I.B.A. Intermediate Examination, who wish to take the R.I.B.A. Intermediate or Final Examination, to be exempted from the submission of Testimonies of Study to the R.I.B.A. In future such students will submit to the authorities of the Schools concerned, for consideration by External Examiners specially appointed by the Schools, portfolios of School work covering the same ground as that required by the R.I.B.A. regulations for Intermediate and Final Examinations Testimonies of Study.

The third recommendation deals with that most controversial subject —examinations in architectural design. The McMorran Committee had the following to say on this question:—

"When the Royal Institute first proposed to set up an examination system there were some eminent architects who felt there should be no attempt to assess ability in design by means of examinations. The contrary view prevailed, however, and for more than half a century it has been the practice of the Royal Institute to hold "external" design tests based on set subjects, of which the title is announced a week beforehand, the candidate being held virtually *en loge* for the whole period of the tests. During the period when this procedure was being developed the "Beaux Arts" system of design was popular in the leading schools of architecture, and it was considered that the architect should "be able to analyse a paper problem, produce a series of outline solutions, choose the most promising, and develop it on more or

less conventional lines, within a limited time. This particular skill is now held in less esteem, and it is felt that the process of design, to be of value, should be based on more detailed researches into the nature of the problems, the means of construction, and other factors capable of influencing the solution. It is still urged by some that since the architect should have the ability to reach clear decisions on a swift appreciation of a problem and a grasp of essentials, he may fairly be tested in this respect by the existing system; but it must be admitted that in practice he is not required to produce designs under examination room conditions. The conclusion must be that the students' design competitions, conducted by the Royal Institute and other bodies, provide sufficient opportunities and incentive for those who wish to excel in this respect, and that set design tests for all, as a condition of qualification, have become an anachronism.

This point of view has already been adopted in many schools of architecture and few recognised internal examinations now include set design tests on the lines of the R.I.B.A. Examinations. The design examination in most schools consists of a review of the whole of the candidate's studio work, and in the Final Examination particular value is placed on the "thesis design" to which the candidate may have devoted the greater part of his time during the last year of his course. There may be a risk that the drawings placed before examiners may not be wholly the candidate's own unaided work, and the influence of the teaching staff may sometimes give a certain uniformity of character to all the designs submitted for examination, but it is generally felt that this is not a serious drawback, compared to the educational advantages which are claimed.

While this attitude to design tests has been developed in the recognised schools, the Royal Institute has greatly elaborated its Testimony of Study system, with the result that the independent student must now produce and submit drawings comparable in volume with the studio work of a student in a recognised school. External candidates frequently have to be reminded that the submission of this work does not constitute an examination in itself, but that it is a necessary preliminary to the examination.

The Design Examinations, for candidates taking the R.I.B.A. Examinations, in their present form should, therefore, be discontinued, and be replaced by a new form of examination based on the Testimonies of Study.

Students would be required to submit the Testimonies of Study in progressive stages as at present, but the drawings in the last stage (including the necessary working drawings) would form the first part of the Examination in Design and Construction, and would be submitted some weeks before the examination, when, together with the earlier work, they would be seen and marked by panels of examiners consisting of not less than three persons for each candidate, including an examiner in Construction, allowing time for each candidate fully to explain his design. It is understood that, in spite of the declarations that are required, there have been cases of candidates submitting, as Testimonies of Study, work done by others. The suggested procedure would go far to check such abuses. Furthermore, any future extension of recognition of part-time courses, by easing the present pressure on Testimony of Study examiners and external design examiners, would allow more thorough consideration to be given to each submission".

When this recommendation came before the Board they suggested that the Examination on Design should not be eliminated but possibly reduced to one day only but suggested that this matter be given further study.

This important point has now been considered and the R.I.B.A. Council have taken the view that a test under examination room conditions is the only satisfactory way of testing a candidate's capability in design, and have decided to continue the existing Design Examinations. They have, however, asked the Board to draw up a scheme to make the test a more comprehensive one by reducing the number of Final Examination Testimonies of Study from four main and three subsidiary subjects to three main and two subsidiary subjects, the last of the three Testimonies of Study being expanded to include a design combined with working drawings, and possibly a report, to be awarded marks by the Testimonies of Study Examiners, the marks being placed to each candidate's credit in assessing the results of his examination in design. The Board have under consideration the implementation of this decision.

We will presumably have to await the Board's decision as to whether it is to be a four day design subject as at present or, as they suggested in their observations on the McMorran Report, one day only.

Architectural education, particularly for the external student, has received an impetus and he has been lifted from being the Cinderella to an important member of the profession. But before he can receive any benefit every qualified member of the profession will have to see that the student is given the opportunity to benefit. It will also be necessary for the student to play his part. He must grasp the opportunity.

M. E. TAYLOR.

Financing the Board of Building Education

Members of the L.M.B.A., at the invitation of the President, Mr. L. J. Holloway, have subscribed £3,078 15s. in sums ranging from £50 to £100 to finance the launching of the Board of Building Education set up recently by the Institute of Builders.

In moving a vote of thanks to Mr. Holloway for taking the lead in this matter, Mr. F. L. Wallis said that the L.M.B.A. donation would remove their immediate anxieties about the work of the Board of Building Education, but when it really got to grips with the many problems facing the industry, it would certainly need more money. If therefore any provincial firms felt inclined to follow the lead of London he would be very pleased to accept their donations.

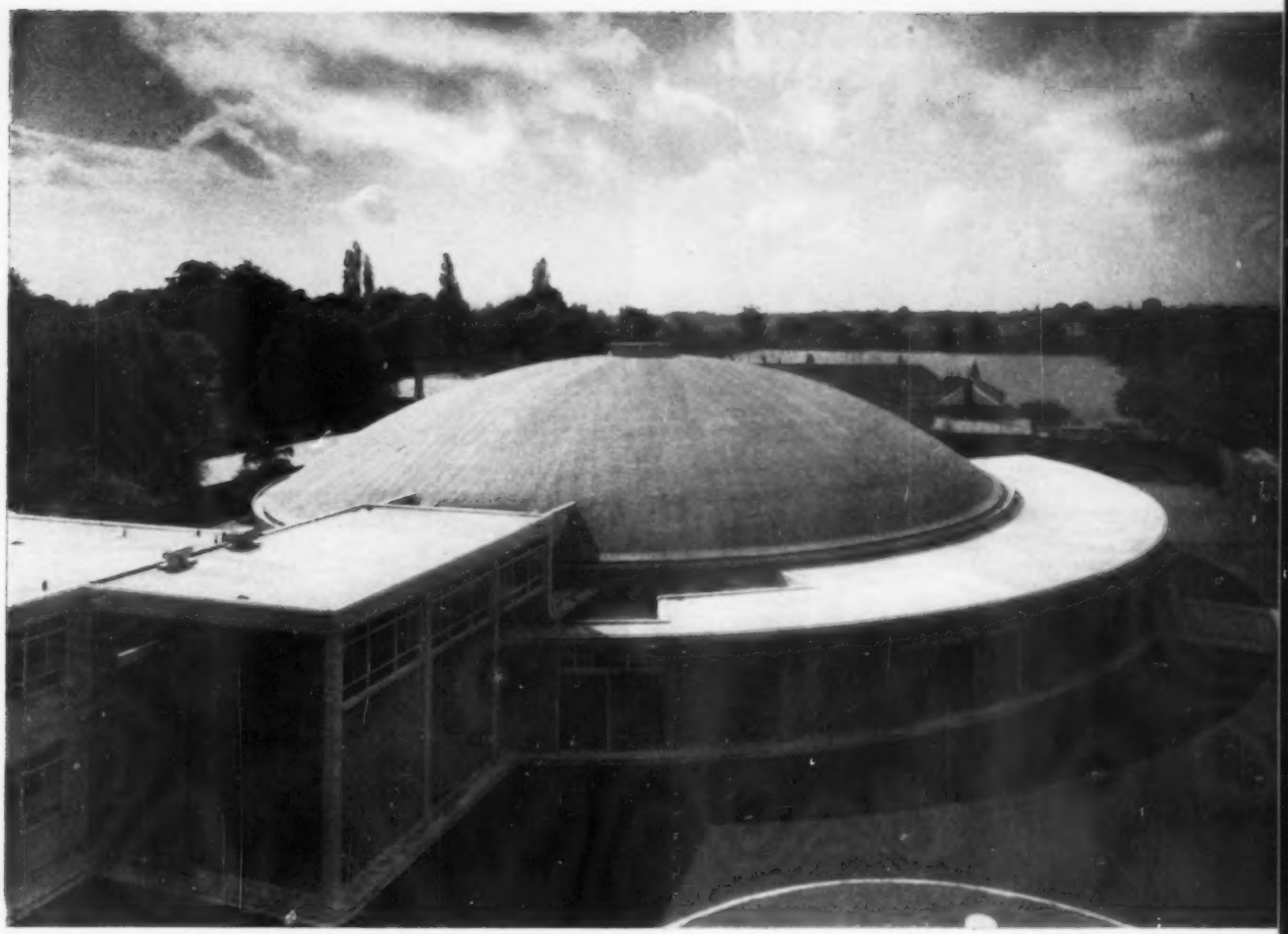
Among those who made donations to the L.M.B.A. contribution were :

Messrs. Ashby & Horner; Richard Costain; Demolition & Construction Co.; Dove Brothers; H. Fairweather & Co.; Howard Farrow; W. & C. French; Gee, Walker & Slater; Haymills (Contractors); Higgs & Hill; Holland & Hannen and Cubitts; Holliday & Greenwood; Holloway Brothers (London); Humphreys; J. Jarvis & Sons; Kirk & Kirk; John Laing & Son; Walter Lawrence & Son; Leslie & Co.; James Miller & Partners; F. G. Minter; John Mowlem & Co.; Harry Neal; Sir Lindsay Parkinson & Co.; Patman & Fotheringham; Prestige & Co.; Rush & Tompkins; Bernard Sunley & Sons; A. E. Symes; Taylor Woodrow Construction; Trollope & Colls; Unit Construction Co.; Wates; and George Wimpey & Co.

. . .

Mr. L. J. Holloway, President of the L.M.B.A., has been elected Chairman of the Board of Administration which is to supervise the L.M.B.A.'s new pupilship and studentship scheme. Mr. N. S. Farrow, Chairman of the Education Committee, has been appointed Vice-Chairman.

The other members of the Board are Mr. Gerald Hill, Mr. W. K. Laing, Mr. D. E. Woodbine Parish and Mr. K. J. Pearce.



Rotating Beam Channel Building

Hydrodynamic Laboratories Extension to the Admiralty Research Laboratory, Teddington

ALEXANDER S. REID, A.R.I.B.A., Senior architect, Ministry of Works

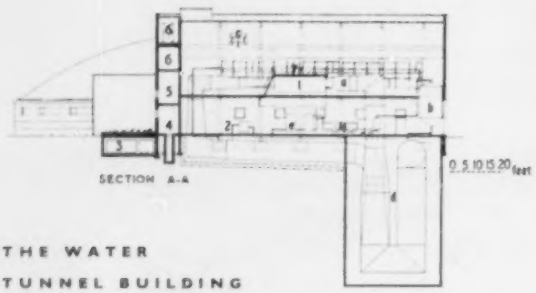
M. WOOLFSON, A.M.I.E.E., A.Amer.I.E.E., Senior Engineer

THE extension of facilities at the Admiralty Research Laboratories at "Upper Lodge", Bushy Park, Teddington, comprise an office block, rotating beam channel, water tunnel laboratory, water entry laboratory and boiler house. The design and execution of the buildings, heavy plant and engineering services were carried out by the Chief Architect's and Chief Engineer's Division of the Ministry of Works in consultation with the Royal Naval Scientific Service of the Admiralty. Messrs. John Miles & Partners were consulted in connection with the design of the Rotating Beam.

The Office Block

The building is of concrete cased steel frame with precast concrete panels between steel windows and facing brick end walls. Partitions are generally of pre-fabricated plaster, exposed internal walls of buff and lime brickwork, ceilings of fibre tiles and floor coverings of P.V.C. sheeting, quarries or hardwood blocks. Engineers' services comprise low pressure hot water heating and comprehensive electrical, gas and compressed air services, fluorescent and tungsten lighting to laboratories, offices and workshop. The building is designed to take an additional storey at a later date.

Hydrodynamic Laboratories, Teddington



THE WATER TUNNEL BUILDING

KEY:

1. WATER TUNNEL WORKING SECTION; 2. WATER TUNNEL PLANT ROOM; 3. TANK; 4. PLANT; 5. VENTILATION PLANT; 6. STORAGE TANK; 7. WORKING PLATFORM.

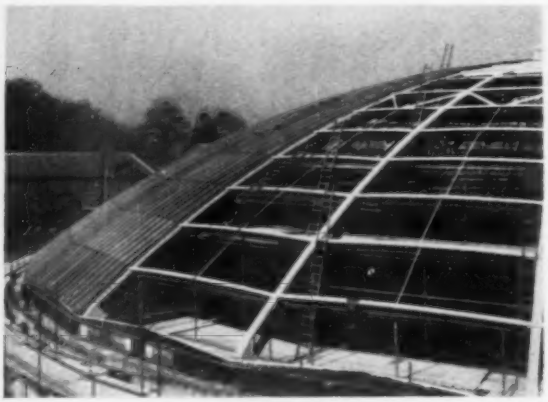
a. WATER TUNNEL; b. DE-AERATOR; c. TRAVELLING CRANE; d. RESORBER PIT; e. EVAPORATORS; f. PUMPS.

BELOW: LONG SECTION THROUGH MAIN BUILDINGS.

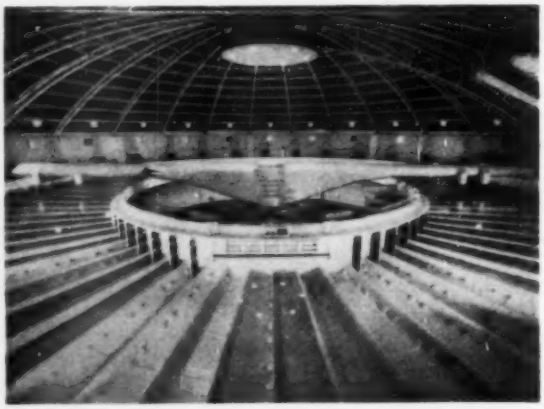
KEY:

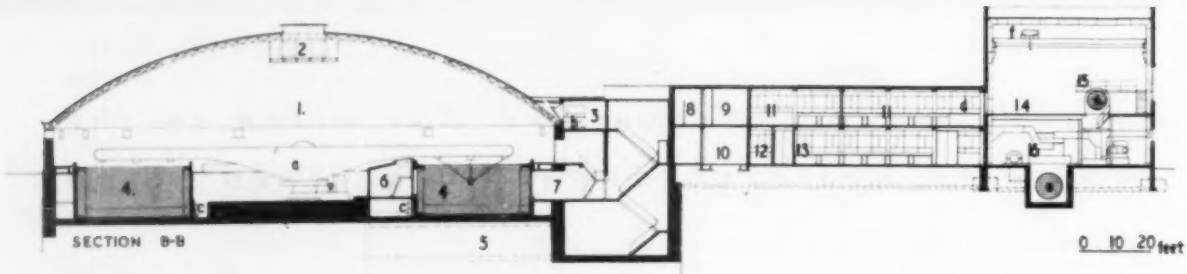
1. ANNULAR TANK; 2. INTAKE VENTILATION PLANT; 3. CONTROLS; 4. WATER CHANNEL; 5. ACCESS & SERVICES TO ROTATING ARM; 6. INNER OBSERVATION ROOM; 7. OUTER OBSERVATION ROOM; 8. MEN'S LAVATORY; 9. DARK ROOM; 10. SWITCH ROOM; 11. CALIBRATION & ASSEMBLY LABORATORY; 12. FIRST AID; 13. WORKSHOP; 14. WATER TUNNEL WORKING SECTION; 15. WORKING PLATFORM; 16. WATER TUNNEL PLANT ROOM.

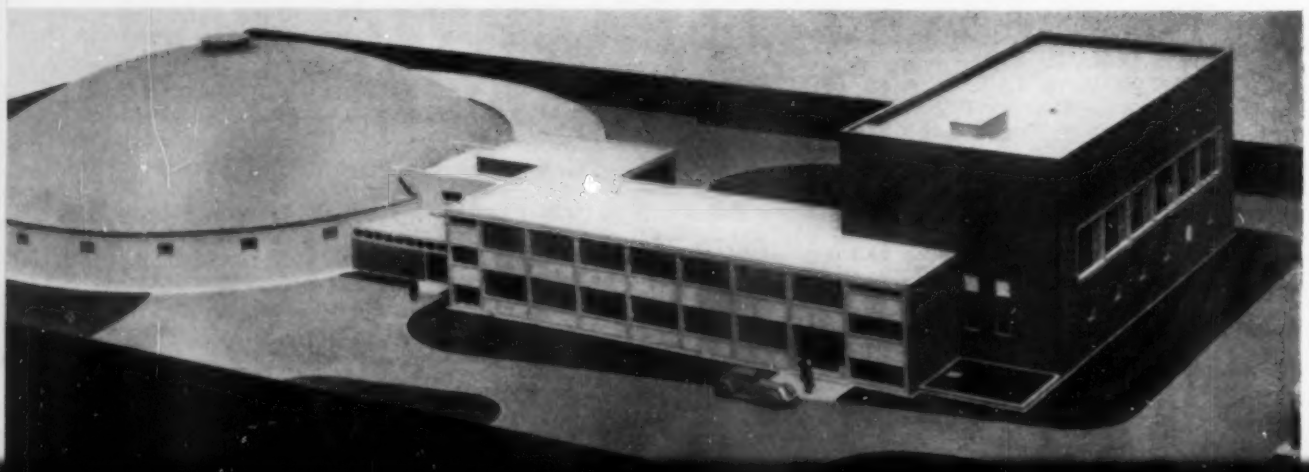
a. ROTATING ARM; b. CONTROL DESK; c. SERVICES; d. LOADING PLATFORM; e. WATER TUNNEL; f. TRAVELLING CRANE.



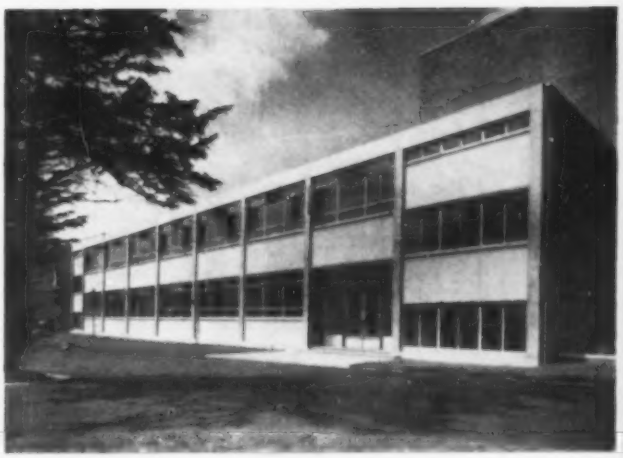
Construction, and interior below, of the Rotating Beam Channel Building







Boiler House



Main Entrance

The Rotating Beam Channel Building

The purpose of the rotating beam channel is the testing in water of models in movement to obtain hydrodynamic data. The essential requirements comprise an annular channel filled with optically clear water, and a powered rotating towing arm operating in a building with controlled temperature and humidity and dust-free conditions.

The water channel, in reinforced concrete, is 136ft maximum diameter, 34ft wide and 15ft deep, with service tunnel underneath. The work necessitated deep excavations through a stratum of water bearing ballast into blue clay. Good working conditions were obtained by the use of a ring de-watering system and sheet piling, the piling forming the outer shutter of the main reinforced concrete girdle wall of the building.

All the underground reinforced concrete of the walls and tank is gap-graded and pattern vibrated, and designed to withstand water percolation without the addition of a waterproofing agent or of asphalt tanking.

All underwater concrete and metal surfaces are treated with chlorinate rubber paint.

Observation rooms are provided on both sides of the channel below water level. These rooms are fitted with window frames and sub-frames of machined zinc-coated mild steel glazed with 1¼in thick laminated toughened glass in frames 3ft 2in x 2ft 6in, bedded in rubber and sealing compound.

To limit any element of risk to personnel in the event of accidental breakage, the observation windows are fitted with bronze roller shutters designed to drop in two seconds to reduce water flow. These shutters are actuated automatically by the breakage of fine wires which are cemented to the window panes.

Operational control of the rotating arm is from a high level room, giving a clear view of the whole of the interior of the channel.

The dome roof, about 160ft in diameter, is supported on light steel latticed trusses placed radially with hinged bearings from the steel tension ring at the springing. Transported in halves, the trusses were welded together on site and erected on a temporary central tower which was removed on completion.

Permanent shutters of plywood faced with sapele are used to form the reinforced concrete supporting ribs and to give a warm lining to the roof to minimise condensation. Lightweight thermal insulation is provided by 2.25in thickness of granulated cork concrete, screeded with cement and sand, and finished with 3-layer bitumen felt mineralised grey externally.

Heating is provided primarily by radiators located around the periphery wall, and by a system of copper heating pipes ringing the whole of the dome soffit. The balance of heat requirements and the control of the level of humidity in the building is supplied by a plenum plant located in a chamber suspended from the crown of the dome. Cleaned and heated air is directed radially outwards and downwards over the internal dome surface, and is extracted by fans around the periphery wall.

The intensity of the natural lighting is kept low to discourage algae growth. Artificial lighting is concentrated downwards mainly on the water channel and is provided by specially designed reflector fittings mounted around the base of the dome and housing 300 watt tungsten lamps. Underwater lighting is used additionally in the observation area.

Engineers' plant rooms and model stores are arranged around the periphery of the laboratory with access from the rear servicing yard.

The rotating beam consists essentially of two symmetrical arms each approximately 60ft long attached to a central hub, the whole assembly rotating about a fixed king post.

Hydrodynamic Laboratories

The Water Tunnel Building

The water tunnel is for investigating the nature of water flow about submerged bodies, in particular the cavitation phenomena.

The building is constructed of heavy steel frame portals with brick walls, a removable reinforced concrete panelled first floor and a steel deck roof system. Brick external walls, acoustic board and fibreboard lined ceilings, and double ground floor windows, are used to reduce reverberation and the transmittance of sound from the plant room.

The upper limb is located on the first floor and contains the test or working section in which the models are placed for test and observation.

The water in the tunnel is conditioned for temperature, air content and optical clarity. The ancillary plant for these purposes is located on the ground floor together with the main electrical plant. Thus, this floor comprises a comprehensive plant room.

The Water Entry Laboratory Building

This laboratory is sited independently from the main group and is concerned principally with the behaviour of bodies launched into water from the air.

The layout consists of a series of offices, dark room, etc., adjoining a large laboratory. One side of the laboratory is carried high to provide walkways and working space over the experimental water tank. The tank is of toughened glass and was provided by the Admiralty.

The building is constructed of light steel framing with latticed trusses, steel deck roof system, P.V.C. covered concrete floor. The panel walls of asbestos sheeting are lined with glass wool quilt insulation and plasterboard panels. All windows are equipped with blackout blinds for photographic purposes.

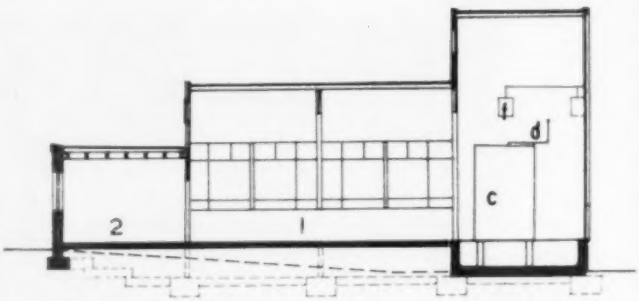
Externally the steel frame is exposed and painted white, while the asbestos is treated in a colour scheme with rubber emulsion paint. Engineers' services comprise low pressure hot water heating, and tungsten and fluorescent lighting.

General Contractor: Richard Costain Ltd.

SUB-CONTRACTORS:

Acoustic Sliding Folding Doors: Essvian Ltd. *Aluminium Underwater Baffles:* Crittall Manufacturing Co. Ltd. *Arm:* Craven Bros. *Asphalt Flooring:* Val-de-Travers Asphalte Co. Ltd. *Asphalt to Roofs:* Excel Asphalte Co. Ltd. *Axial Flow Pump:* Escher Wyss Ltd. *Bitumen Felt Roofing to Dome:* Permanite Ltd. *Centre Post:* F. B. Engineers Ltd. *Concrete Baffles:* Girlings Ferro-Concrete Ltd. *Concrete: Units:* Concrete Ltd. *Electrical:* Read & Partners. *Electrical Plant:* The English Electric Co. Ltd. *Filtration Plant:* The Pulsometer Engineering Co. Ltd. *Flush Doors:* John Sadd & Son Ltd. *Gearbox:* David Brown & Sons (Huddersfield) Ltd. *Heating and Ventilating:* R. B. Stirling & Co. Ltd. *Hollow Tile Floors and Roofs:* Smith Fireproof Floors Ltd. *Insulation:* Sundeala Board Co. Ltd. *Laminated Glass to Observation Windows:* Triplex Safety Glass Co. Ltd. *Lavatory Cubicles:* Flexo Plywood Industries Ltd. *Lifts:* Evans Lifts Ltd. *Metal Louvres:* Henry Hope Ltd. *Metal Windows:* C. E. Welsteads. *Model Handling Gear:* Walker Bros. (Wigan) Ltd. *Pavement Roof Lights:* J. A. King & Co. Ltd. *Permanent Shuttering:* Plysyl Formwork Ltd. *Pressure Control System:* The British Hydromechanic Research Association. *Re-aeration Plant:* Hick, Hargreaves & Co. Ltd. *Refrigeration Plant:* Pressed Steel Co. Ltd. *Removable Floor Units:* Smith Walker Ltd. *Resorber:* The Fairfield Shipbuilding & Engineering Co. Ltd. *Roller Shutters:* Shutter Contractors Ltd. *Safety Shutters:* John Booth & Sons (Bolton) Ltd. *Steel Decking:* Ruberoid Co. Ltd. *Steel Escape Staircases:* B. Finch & Co. Ltd. *Steel Folding Doors:* Bostwick Gate Co. Ltd. *Steelwork (Main contract):* Alex. Findlay & Co. Ltd.; *(Water Entry Lab. Contract):* Burton Construction Engineering Co. Ltd. *Tanking:* Val-de-Travers Asphalte Co. Ltd. *Tunnel Sections:* Markham & Co. Ltd. *Watertight Doors and Frames:* Milner Safe Co. Ltd. *Watertight Observation Windows:* Alex. Findlay & Co. Ltd. *Wood Block Flooring:* Stevens & Adams Ltd. *Working Section:* Walker Bros (Wigan) Ltd. *Wrought Iron Balustrades:* S. W. Farmer & Son Ltd.

Water Entry Laboratory Building

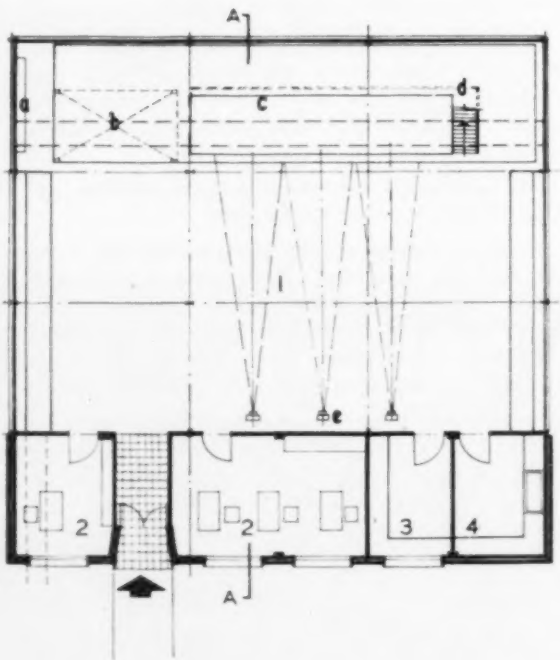


SECTION A-A

KEY:

1. CAMERAS & WORKSHOP
2. OFFICE
3. ANALYSING ROOM
4. DARK ROOM

a. CONTROL PANEL
b. CATAPULT
c. GLASS TANK
9. PLATFORM OVER TANK
e. CAMERA
f. LIGHTS



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Report on the Annual Conference of The Town & Country Planning Association

by DEREK PLUMSTEAD, A.R.I.B.A., A.M.T.P.I.

ANOTHER well attended annual conference of the Town and Country Planning Association met on the 1st and 2nd of this month to discuss communications and their effect upon distribution of industry and population in a "Changing Britain." These are problems of our "Conurbations"—the clusters of towns which have become great cities merged into one another. The papers submitted presented two diametrically opposed solutions—the transport engineer's, who advocated express motorways into and out of the centres of big cities to clear traffic congestion, and the town planners who preferred to solve the congestion problem by taking away its cause.

Both would admit that either solution was long term, but, on balance, the elimination of the cause—congested homes and work places—would be the quicker, since this meant damping down further growth of the Conurbations while creating "magnets" in developing more New Towns and expanding smaller ones. The transport engineer's method involves expensive new highways or viaducts, flyovers, tunnels, cuttings, etc., involving costly acquisitions and demolitions which, as Mr. Fiske, the Chairman of the L.C.C. Housing Committee, described as somewhat terrifying even if practicable.

Moreover, as Mr. Self, the economist pointed out, the "funnelling in" of traffic by new highways was not in itself a solution, because it merely built-up more traffic in the big city centres to worsen car parking problems, and encouraged people to spread themselves further out from their places of work, and probably help to bankrupt London Transport. Furthermore, why, asked Mr. Fiske, should 3½ million Londoners have their city made into a parking ground for one million or so people who visit it every day? That did not mean, as Mr. F. J. Osborn, the organiser of the conference, stressed, that big new road improvements were the extravagant toy of the road engineer to be contemptuously thrown aside, but it did mean that the road solution could be over emphasised when it should march in step with the general conception of the national need for proper town and country planning. He instanced the American experience of so-called fast motorways into New York which, with all their breadth and modernity, have become so crowded with vehicles that people seek by-ways to avoid them!

In short, it may well be that the other logical answer to the new system of highways mentioned by Mr. Brunner—the transport engineer—which is to reduce traffic to its level of 25 years ago in the centres of cities—would result from a proper redistribution of industry and population. It would be wrong, therefore, to allow such a preponderance of national spending to go into new roads at the expense of directing an adequate amount into removing the cause. It is a balanced programme of expenditure that is needed for the redistribution of industry and population (which attract traffic), and for roads to serve the new pattern of distribution.

One cannot agree with Alderman Fiske that the New Towns failed in their primary purpose of achieving decentralisation for London simply because they did not take a fair ratio of the overfill from the country part of Greater London. The reason is much more fundamental, because true decentralisation will never be achieved by simply taking population from any part of London. Everyone knows that unless buildings are actually demolished (or controlled against re-occupation), and new ones put back at greatly reduced densities with open spaces and schools, etc., where none existed before, decentralisation can never be truly achieved; and, since the new accommodation created in the New Towns was never allocated for such purposes, it is not surprising that they failed in their primary purpose. This was pointed out in this journal several years ago by the writer. The "Expanded" town authorities will also never receive a satisfactory answer to their complaints on decentralisation until this is done.

The Papers

The communications aspect was given by Mr. C. T. Brunner, of Shell-Mex & B.P. Ltd., and Mr. P. Masefield of the Bristol Aeroplane Co. The former stressed that road building and design was far behind the developments of road transport due to the failure of successive governments. This failure was uneconomic and had increased transport costs and the toll of accidents. For example, £37,400,000 for a new motorway and a new Severn Bridge linking South Wales with the Midlands would save £4 million per year in transport operating costs. Also, without 800 miles of new motorways traffic volume would create industrial chaos.

Mr. P. Masefield strongly contended that domestic air services were not a serious threat to the economic and competitive development of railways because the latter could carry goods more cheaply. Inter-communication between city centres and airports must be improved to get the best time-value out of air communication by helicopter stations on strengthened railway station roofs. A mono-rail system with 150 m.p.h. cruising speeds was another solution, though it would raise aesthetic problems for the town planner.

It was interesting to hear an economist—Mr. P. Self—confirm the Barlow recommendations and in particular the Abercrombie contributions to them. They were right 15 years ago in demanding a halt to the spread of the conurbations, yet they received more general recognition then than they do today when the dangers of further spreading were greater due to the lack of success with the "expanded" towns policy. The real testing time was now, when public controls had given way to a vigorous resurgence of free enterprise. With the London Region, excluding the New Towns, accounting for over a quarter of all new factory space licensed in Britain during 1954, the pressure of industrial growth was enormous, and would threaten the Green Belt by the increased demand for homes nearer to them.

Unless therefore industrial expansion in the conurbations was dampened and alternative scope offered in New Towns and Expanded Towns it was no use planning for population overspills. Birmingham was quite unrealistic in proposing to export her surplus population unless she also agreed to export industry, instead of receiving more industry than ever existed before. Only the L.C.C., among all local authorities, used the powers under the Act to the full in dampening down industrial growth, while the others were frankly ambivalent in planning to lose population, but reluctant to abandon any existing,

or even any potential source of employment. They did not appreciate clearly the relation between too many people and too many jobs.

The Board of Trade were primarly to blame in failing to apply its powers of control effectively since, in the last three years, from 10.9 per cent to 15 per cent of all factory space licensed for the whole of Britain had been authorised *in the built up area* of the Greater London Region, and a similar amount in the Greater Birmingham Region. The present Minister of Housing and Local Government had thrown his full weight behind the stopping of further growth in the conurbations by attempting to establish Green Belts, and to cut down the industrial zones proposed in the Development Plans. He had also adjusted the new system of housing subsidies and improved those under the Town Development Act.

The scale of the problem was not, however, appreciated. The overspill figures for the largest cities were enormous. For example, the combined overspill for London, Birmingham and Glasgow was substantially over a million population and these cities were surrounded by other congested cities. Since the six large English conurbations contained 40 per cent. of the people and represented at least that potential housing demand, even allowing for a fall in the present rate of building, some two million new houses were going to be built during the next 20 years. At most a quarter of a million might be built in the redevelopment areas, another quarter of a million would—realistically speaking—add to suburban sprawl, which left one million new houses to be provided elsewhere, if present policies and plans were implemented.

This assumed a considerable backsliding on present Green Belt notions to the tune of quarter of a million suburban villas as a sheer social and political necessity. Yet it did not include the housing needs of other substantial cities like Sheffield, Hull, Nottingham, Plymouth and Portsmouth. It was, therefore, a minimum calculation showing an inevitable and fabulous growth, green belt or none, unless steps were taken to locate them elsewhere. Either 20 towns of the size of Brighton or Reading, or 50 New Towns, 1945-style were required for these million new houses. Since there were virtually no virgin sites left, it must be done by expansion of existing communities to about 25,000 population at least. Otherwise, adequate services could not be provided, sufficient to draw off industry and population from the conurbations.

While many firms were economically closely tied to the conurbations, too many were attracted by marginal advantages, traditional locations and simply by following the crowd, rather than find satisfactory alternatives. On the other hand tax and ratepayers suffered from this mal-location of industry from the increased demands upon public funds for housing their employees, and the cost of new services were often in excess of the industrialists' private investment. This led to more subsidies which, for London, might now have to include London Transport. The rest of the country, outside these conurbations, also suffered by an undue proportion of youth and ability being sucked away from it, and with ageing populations and narrowing horizons left behind together with increased difficulty of even maintaining existing services.

Nothing less than a complete reorientation of the Board of Trade's controls and services, as well as the creation of the "magnets" was required if the efforts of the Minister of Housing and Local Government to cut down industrial expansion in the conurbations, was to be effective. That would require Cabinet decisions affecting the whole pattern of town and country through a single ground design containing the essential elements of the green belts, industrial re-location, new and "expanded" towns.

This need for central government action at the highest level was also reinforced by Alderman W. G. Fiske's paper in pointing to the Ministry of Transport as, by common consent, the most ineffective of all Government departments in being unable to make up its mind on the long term nature of road planning in built-up areas, and to deal with this over-concentration of the office, as well as the industrial, work place. The failure of the New Towns to take an adequate amount of the L.C.C.s overspill of 300,000 persons had forced them to seek an outlet through the "expanded" towns policy, but if a chairman's casting vote, as in the case of Ashford, Kent, should simply, upon personal grounds, be allowed to stymie such endeavours, then the problem will become incapable of solution.

The acute road congestion had now shown that traffic lights were having to be superseded by personal police control, and he posed a number of questions suggesting a ban upon all private and commercial vehicles in inner London, drastic steps to eliminate office employment in the City and the West End, a special traffic control authority, on-the-spot fines and a Road Commission, because the problem was now out-of-hand.

Scottish News

Glasgow Corporation has remitted to a sub-committee for reports a proposal that private architects be invited to co-operate in the redevelopment of the city. Basis of the argument is that the City Architect Department has so many commitments in addition to housing, such as schools, and other public buildings that their resources of technical skill are stretched to the limit. Faced with a major re-development plan within the older city, the need for extra staff and experience is evident; in order to expedite development work and to ensure a high architectural standard, the Corporation may therefore sponsor open competitions, with Royal Incorporation of Architects in Scotland as the formulators of the conditions, or alternatively, appointed private architects to undertake sponsored work in given sections or areas.

Dundee Corporation has approved the construction of multi-storey flats in the City Architect's plan for redevelopment of the central area of the city. Probable areas for such development will be the Hilltown and Scott Street areas and the buildings intended are likely to be eight-storey flats. The decision to adopt multi-storey construction was taken after consideration of prices paid in other areas. Firms with experience of multi-storey construction work will be invited to tender.

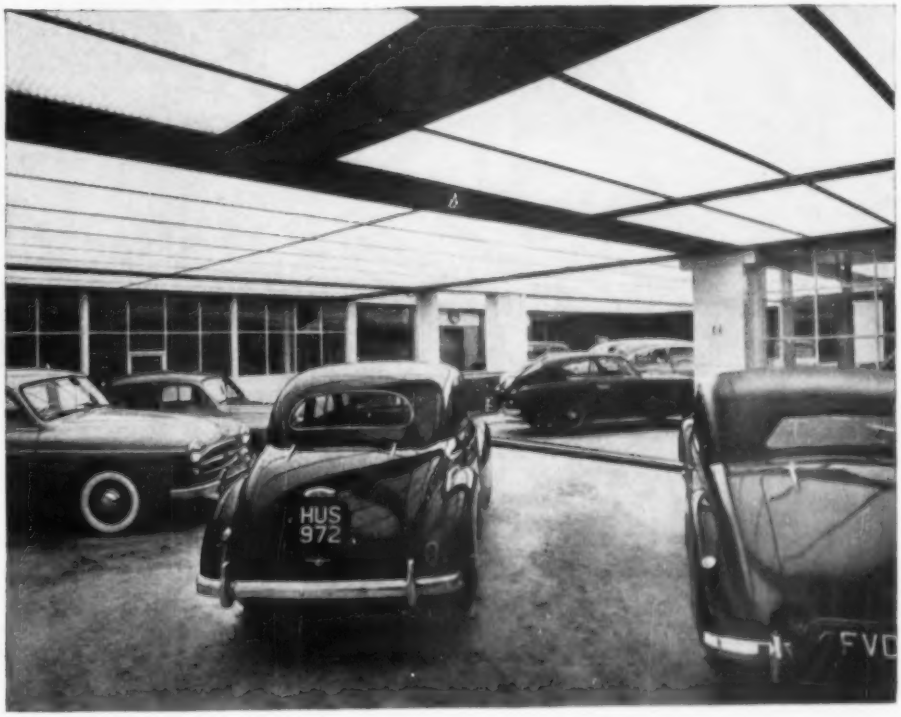
Edinburgh Corporation has approved the draft of a Provisional Order for the proposed underground car park at East Princes Street Gardens. There remains a further meeting to determine whether the city should seek the Order. There is continued objection to this scheme by various cultural and amenity societies which have made it clear that they oppose the scheme in its entirety on grounds of aesthetics and tradition.

Meanwhile the City Engineer has been instructed to investigate a car park site to hold 500 vehicles in the wooden garden area between Castle Terrace and Kings Stables Road. Three plans are at present under consideration for this area, a stage one plan to take 287 cars at a cost of £56,000 and a stage two plan to provide a parking deck above the park to take a further 218 cars and to cost £65,400.

See-

HOW THE SCENE CHANGES

Garage with conventional lighting. Note the confusion of beams, pipes, trunking, wiring and light fittings.



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COMMERCIAL TV AERIALS

Radio Industry Guidance for Local Authorities

As commercial television, operating on "Band III" frequencies, has revived discussion about the type and siting of aerials for reception in houses and flats, the radio industry has prepared a brief statement in the hope that it may provide some guidance for local authorities. It is pointed out, however, that geographical contours, local obstructions and the degree and nature of interference are all-important and that it is even more difficult to generalise about Band III reception than reception on Band I, to which the B.B.C. transmissions are at present confined, especially as practical experience is so far limited to the London area.

The statement is issued jointly by the British Radio Equipment Manufacturers Association, organisation mainly of the receiver manufacturers, and the Radio and Electronic Component Manufacturers Federation, which includes most of the manufacturers of aerials. It is as follows:—

(a) The problems of aerial installation and siting, interference, ghosting, etc., for Band III reception are greater than for Band I.

(b) The performance of indoor aerials on the ground floor cannot be predicted, and can only be determined on site, particularly as their use is likely to be less satisfactory than in the case of Band I indoor aerials.

(c) Indoor loft aerials may be satisfactory within many miles of the transmitter, but again their use may be subject to local conditions. Loft aerials for Band III are, however, more efficacious than those for Band I, since their smaller physical size allows for the use of multi-element types.

(d) In general, however, the installation of an outside aerial is advisable. A three element type will usually be the minimum requirement since (i) the simple dipole is particularly susceptible to ghosting, and (ii) an indoor aerial could be used if the signal were sufficient for an outdoor dipole. An outdoor aerial will in any event be necessary for fringe area reception.

(e) For large buildings such as blocks of flats, etc., the erection of a communal aerial fed through an amplifier system is recommended.

(f) Whilst the use of Band III aerial adaptors added to existing Band I outdoor aerials may be found satisfactory in the most favourable conditions, the sensitivity, bandwidth (sound to vision ratio, resolution) and directivity will normally be inferior to that of an aerial designed especially for Band III reception.

(g) As regards the efficiency of combined Band I/Band III aerials, the data available at this time is not sufficient to permit any firm recommendations.

Inquiries arising out of the above statement should be addressed to the Secretary of either of the Associations named — B.R.E.M.A., 59, Russell Square, W.C.1, or R.E.C.M.F., 21, Tothill Street, S.W.1

Committee to Consider Problems of Fuels Storage in Flats

A Joint Committee of five members of the London Regional Committee of the Coal Utilisation Council and five from the London Branch of the Institute of Housing has been formed to enquire into the problems of fuel delivery and storage in blocks of flats. The Chairman is Mr. Lionel G. Locket, who is also chairman of the London Regional Committee of the C.U.C.

The committee will consider the manual difficulties of getting in and handling the fuel, and the structural problems of design of storage places, lifts, stairs and passageways so that delivery can be effected speedily and cleanly. Both existing dwellings and proposals for future construction will be taken into account.

The committee will also explore the possibility of preparing a code of practice which will assist the coal industry, owners, tenants, architects and managers of blocks of flats. They have noted the fact whilst rigid codes of practice must be adhered to before electricity and gas can be received from the supplier, the coal merchant has no enforceable code of practice to ensure that there are proper arrangements for handling and storing solid fuel.

A report will be prepared and published.

Communications from interested parties which will assist the committee in its work will be welcomed and should be addressed to the Secretary, Mr. A. Burton-Stibbon, Coal Utilisation Council (London Region), Artillery House, Artillery Row, London, S.W.1.

L.M.B.A. President's Message

In a Christmas message to his Area Chairmen, which he has asked them to pass on to their members, the President of the L.M.B.A., Mr. L. J. Holloway, says:

"The year that is ending has probably given us the best building season we have had since the end of the war. The long term outlook for the industry is still as good as ever, for there is a generation's work ahead of us, and with the new demands which the atomic age and automation are making for new types of building the claims on our services must steadily grow. Here I think a word of caution is necessary, for I doubt very much if we shall have as much work in prospect at this time next year. For the moment there may well be a reduction in the demand for building. The international exchange position must be put right. The Government's credit squeeze has made it more difficult to obtain what we have come to regard as one of the raw materials of our industry, namely bank credits. This must surely affect the amount of new work.

"How long the Government's corrective measures may take to work themselves out no-one can tell, but until they do the building industry, like many other capital producing industries, will have to go a little slower.

"I do not wish to strike a gloomy note at this traditional season of good cheer, but it is well to be prepared. I send my very best wishes to you and your Area for Christmas and the New Year. I hope you will take your own way of passing this on to your members."

Lectures on Concrete Bridges

A course of ten post-graduate lectures on "Reinforced and Prestressed Concrete Bridges" given by specialists will be held at Kingston Technical College commencing at 7 p.m. on 12th January. Details on application to the Head of the Engineering Department, Kingston Technical College, Fasset Road, Kingston-upon-Thames, Surrey.

ARCUK Maintenance [Scholarships in Architecture

The Architects' Registration Council of the United Kingdom offer for award in June, 1956, certain Maintenance Scholarships in Architecture. The Scholarships will be renewable from year to year until the student has finished his or her School training. They will be available for Students of British nationality who could not otherwise afford such training to enable them to attend Architectural Schools approved by the Council. Students must, before submitting applications for A.R.C.U.K. Maintenance Scholarships, ascertain from the Local Education Authority for the district in which they reside, whether that authority has any form of financial assistance available in cases such as theirs. Applications will not be considered if no steps have been taken by students to secure such other assistance as may be available. The Scholarships will be available both for students who have already begun their training and for students wishing to begin their training. Scholarships will not be granted to Students who will be less than 17 *years of age on October 1 of the year in which the examination is taken.*

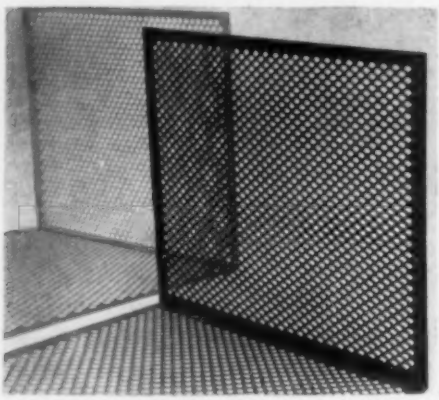
Particulars and forms of application may be obtained from:—The Secretary to the Board of Architectural Education, Architects' Registration Council of the United Kingdom, 68 Portland Place, London, W.1. Copies of previous years' examination papers may be obtained on payment of 6d.

The closing date for the receipt of applications, duly completed, is January 31, 1956.

MOSAICS

FITTINGS
OFFICE FURNITURE
C5/10

The 'Tipdex' drawerless filing cabinet has been produced by Tipdex Ltd., of Martin's Chambers, 28 Martin Lane, London, E.C.4. The principle of the cabinet is such that when the compartments are open, the files are still in the cabinet. All compartments can be open at the same time with all titles on the folders in clear view. The four compartment foolscap cabinet is 54in H x 33in W x 13in D and depth when open is under 19in. Each compartment is 11½in divided into two equal sections with a total capacity of 23in. There are no suspension arms, thus eliminating wear and flattening of ball bearings.

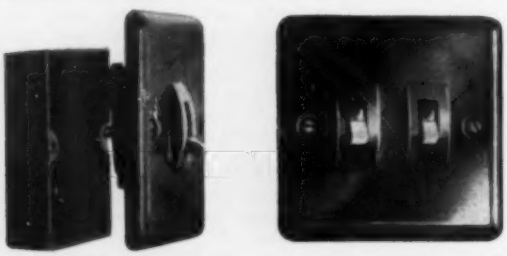


FINISHES
PLASTICS
D5/5

British Geon Ltd., of Devonshire House, Piccadilly, London, W.1, have produced a new rigid P.V.C. sheet known as "Cobex." It is one-fifth the weight of mild steel and almost any type of design can be stamped. Suitable for grilles, screens and decorative panels, it is available in an almost unlimited range of colours. Finishing operations such as painting or buffing are not necessary since rigid P.V.C. can be supplied with a high gloss finish on one or both sides.

SERVICES
SPACE HEATING
B3/80

The new "Gas Miser" multijet convector room heater has been produced by Cannon (GA) Ltd., of Deepfields, Bilston, Staffs. Designed for continuous room heating, the convector will heat 1500 cu ft of air to a temperature of 200 deg. F. per hour. When required room temperature has been obtained the control can be adjusted to a range of different temperatures and consequent reduction of gas consumption. Typical consumption rates per hour: super heat—36 cu ft, normal 22 cu ft, and miser rate—12 cu ft. Dimensions: 24½in H x 18½in W x 7in D. Flue opening: 11 13/32in x 3 9/32in. Max. height of flue: 19 7/16in.



SERVICES
ELECTRICAL
ACCESSORIES
B5/51

Nettle Accessories Ltd., of Harper Road, Wythenshawe, Manchester 22, have introduced a completely new flush moulded combined Switch and Plate unit with fixing centres at 2¼ in so that it can be used on any box from ¾ in deep having fixing centres to B.S.S. 1299. This unit is available in brown, white, cream and ivory and 1 gang 1 way, 1 gang 2 way and 2 gang 1 or 2 way

INDUSTRIAL NOTES

● Dr. R. S. Millard, B.Sc., Ph.D., A.M.I.C.E., has been appointed the Head of the newly-formed Colonial Section of the Road Research Laboratory with the rank of Deputy Chief Scientific Officer. The tasks of the Colonial Section will be to apply the basic knowledge already available at the Road Research Laboratory to problems of road design and construction in the Colonies, and to extend this knowledge by research. The Section is being established at the Road Research Laboratory, Harmondsworth, where most of the laboratory work will be done.

● Mr. R. G. Puttick has been promoted chief surveyor to Taylor Woodrow Construction, Ltd., of London, and has been appointed to the Board of Directors. He succeeds Mr. C. J. Lawson, appointed commercial director.

● The fourth British Plastics Exhibition and Convention — occupying more than double its previous amount of floor space —will be held in the Grand Hall, Olympia, London, from 10-20 July, 1957. The Convention, which will be international in character, will run concurrently.

● In connection with its annual Health Congress—the largest in the world—to be held at Blackpool from 24-27 April, 1956, the Royal Society of Health is also to stage a Health Exhibition.

● At the tenth annual general meeting of the Tile Fireplace Makers' Association, held at the Euston Hotel, London, on Tuesday, 6 December, Mr. V. S. Niblett, of Eastwoods Ltd., London, E.C.1, was elected Chairman and Mr. Lionel A. Walters, of English Fireplaces (Galleon) Ltd., Tolworth, was elected Vice-Chairman of the Association.

● British Plimber Ltd., the London firm of resin bonded wood chipboard manufacturers, announce the appointment of two new technical representatives for the North of England and North Wales, Mr. John Peers and Mr. John Claxton.

● A preview of five one-day instructional courses for local builders' operatives in the correct installation of modern domestic solid fuel appliances is to be held at 11 a.m. on Tuesday, 10 January, 1956, at the North Lindsey Technical College, Scunthorpe. The courses, which have been arranged by Scunthorpe and District Building Trades Employers' Association in co-operation with the North Midland Regional Committee of the Coal Utilisation Council, and the College authorities, will be held at the College.

● Mr. B. Watson, Chairman and Managing Director of Expandite Ltd., has announced that two senior executives of the company—Mr. A. E. Potter and Mr. T. Pooley—have been appointed Directors.

● British Insulated Callender's Cables Ltd. announce the appointment of Mr. G. W. Wheaton, B.Sc., as Branch Manager in Middlesbrough in succession to Mr. R. N. Crawford, who is retiring. The appointment takes effect from 1 January, 1956.

Section of Kardomah Cafe, Albert Square, Manchester

Food and Flooring . . .

A *clean-looking* floor is an asset to any food establishment. But a floor that is easy to *keep clean* is even better. Accotile—the modern thermoplastic tile flooring—not only looks hygienic and colourful, but is easy to maintain in good condition.

It is ideal for cafes, restaurants, hotels, clubs and bars, because an individual design and colour scheme can be planned from the range of 22 shades and three surface effects. In basement rooms it can be laid on screeded concrete even in contact with earth.

Full technical details and samples are available on request.

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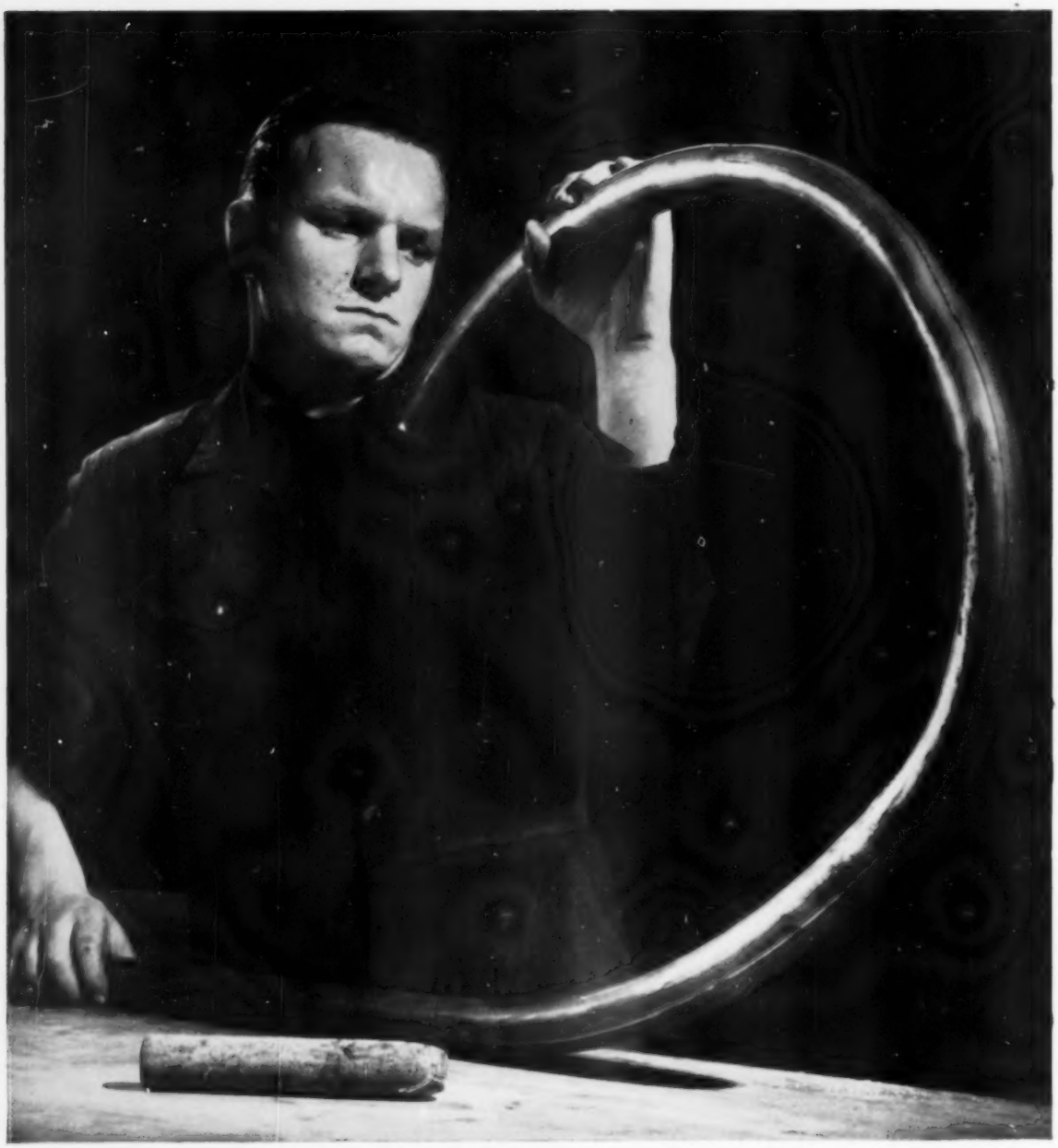
ARMSTRONG CORK CO. LTD., Flooring Department, Bath House, Aldwych, London, W.C.2. Tel.: COVent Garden 1101.

G★



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LEAD LASTS

The Council's Technical Information Bureau will gladly help with problems on the use of Lead Sheet and Pipe in building work. Details of the main uses are given in a series of Information Sheets and Bulletins, which can be obtained by applying to the Council.

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BI.2

ELECTRIC INSTALLATIONS

THE 13TH EDITION OF THE I.E.E. REGULATIONS

The new edition of the Regulations for the Electrical Equipment of Buildings by the Institution of Electrical Engineers which has just been published, is in fact, an important new work. The regulations previously issued, together with their recent revisions and supplements, have been completely overhauled and rearranged in a most direct and rational manner: they have also been directly related to the statutory provisions of the Electric Supply Regulations 1937, and to the relevant Electrical Codes of Practice and British Standards, so that the present volume can be regarded as an epitome of electrical usage in and related to buildings and their equipment. The really important factors involved in providing a supply of electricity where required may be appreciated without difficulty by architects, who, it is hoped, will now become more aware of what is going on in this field.

Essential Prerequisites for Supply

Perhaps the most interesting feature of this new edition is the bringing together of a small group of basic requirements to make up a code of essential directions for the safe use of electricity in and around buildings. This constitutes Part I of the Regulations: failure to comply with these requirements in a consumer's installation in Great Britain would release the Supply Authority from the obligation to provide, or in some cases to continue to provide, a supply of electricity to that consumer.

Part I opens with the famous old Regulation 1 set in large type — "Good workmanship is essential for compliance with these Regulations": then follow eleven requirements, the first five of which are so fundamental that they should be universally known and recognised.

First, all conductors and apparatus shall be sufficient in size and power for the purposes for which the electricity is to be used . . . and constructed, installed and protected so as to prevent danger . . . Second, . . . all single pole switches shall be inserted in line conductors only. A mistake in this matter, i.e., a switch in the neutral or return conductor, can have most serious results, as it would leave the appliance live, whether switched on or off. Third, all conductors . . . shall be so insulated or protected as to prevent danger . . . Fourth, every circuit shall be protected against excess current . . . so as to prevent danger — this is the function of the fuse and its modern counterpart, the circuit-breaker — and fifth, any metal work . . . associated with current-carrying conductors . . . shall, where necessary to prevent danger, be connected with earth.

Part II consists of the means of securing compliance with the eleven requirements of Part I, that is to say it sets out in detail how the Institution of Electrical Engineers co- der they may be met.

The Regulations in General

The regulations state the main requirements and precautions for ensuring satisfactory results, including freedom from fire and shock. They relate principally to installation, inspection, testing and maintenance, and are arranged in 8 sections followed by a series of Appendices of which (B) lists the British Standards and (C) the Electrical Codes of Practice referred to in the Regulations. Notes inserted in the text immediately after the clauses to which they refer elucidate doubtful points and contain much practical information.

Notable innovations are: the rationalisation of circuit arrangements in respect to socket outlets in particular (see Tables 2 & 3), and of the capacities of conduit; two-pin socket outlets and plugs are no longer recognised; and the requirement of satisfactory earthing of exposed metalwork

TABLE 1 VOLTAGES

EXTRA-LOW	Normally not exceeding 30 volts A.C. or 50 volts D.C.
LOW	Normally exceeding extra-low voltage but not exceeding 250 volts
MEDIUM	Normally exceeding 250 volts but not exceeding 650 volts
HIGH	Normally exceeding 650 volts

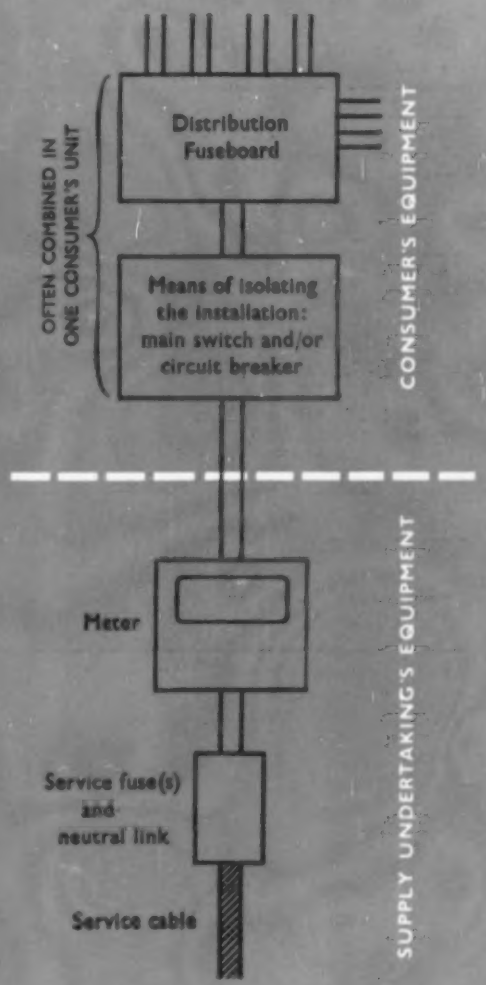


Fig. 1 Sequence of supply controls

Taken from Regulation 102

See also D1.2 fig. 3a

D1.3

G★★

TABLE 2 ASSUMED CURRENT DEMANDS OF POINTS

Regulation 113: The number of points which may be supplied by a final sub-circuit of rating not exceeding 15 amperes is limited by their *aggregate* demand as determined from this table: there must be no allowance for diversity in the final sub-circuit and the current rating of the cable must not be exceeded.

Point or Appliance	Current demand to be assumed
15 ampere socket outlet	15 amperes
13 ampere socket outlet	See Table 3 below
5 ampere socket outlet	5 amperes
*2 ampere socket outlet	½ ampere minimum
Lamp holder	Current equivalent to the connected load with minimum of 100 watts
Electric clock	May be neglected
Fixed or Free standing appliances	British Standard rated current or normal current

**2 ampere socket outlets are usually supplied from lighting sub-circuits (see DI.2, Figs. 1 and 2). In determining the number of these socket outlets permissible on any lighting sub-circuit, the load on each must be taken as not less than ½ ampere.*

TABLE 3 USE OF FUSED PLUGS AND SOCKET OUTLETS

with provision for locally fused fixed appliances.

Controlling requirements, if any.	Min. number and diam. (ins.) of wires forming conductor	Max. permissible socket outlets and fixed appliances*	Max. rating of fuse(s) protecting final sub-circuit (amperes)
—	7/·029	2	20
All socket outlets in one room (of house or flat) of less than 200 sq. ft. floor area, not being a kitchen	7/·029	3	20
—	7/·036	6	30
Ring circuit and spurs (if any) in industrial and other premises	7/·029	10	30
Ring circuit and spurs (if any) in house or flat	7/·029	On a ring circuit serving not more than 1,000 sq. ft. of floor area or part thereof, any number of socket outlets may be installed	30

**Other than electric clocks fed through fused clock connectors.*

anywhere, which means that the old conception of "earth-free situations" (in which it was assumed that there was no likelihood of an electric shock to earth from any live metal) is no longer recognised.

Socket Outlets and Ring Circuits

In domestic installations, the use of the universal 13 ampere socket outlets served by ring circuits is clarified and amended; the old regulation referred to in DI.2, that no more than ten socket outlets per ring circuit may be installed in houses or flats over 1,000 square feet in area, has been withdrawn. One ring circuit is now permitted for every 1,000 square feet of floor area, or part thereof, and each ring circuit may serve as many socket outlets as required, provided they are reasonably distributed between the circuits. This removes an obvious anomaly and will no doubt lead to the standardisation of this system. The regulations concerning spurs and the connection of fixed appliances to ring circuits remain as described in DI.2, figure 3a of which also shows switch and control gear complying with the requirements of this section.

It is confirmed that the use of switches controlling socket outlets on A.C. supply is a matter of convenience so long as the plug is readily withdrawable; they are however obligatory where D.C. is concerned.

Conduit and Duct Systems

Several requirements in the installation of conduit systems are probably unfamiliar to many architects, but they require to be widely known. Regulations 218 and 219 make it quite clear that conduit with plain slip or pin-grip sockets does not comply, and that elbows or tees other than those of the inspection type must not be used except at the ends of conduits immediately behind accessories or lighting fittings. The conduits for each circuit must be erected complete before any cable is drawn in, and it is considered desirable that inspection boxes, draw-boxes, etc., should remain accessible throughout the life of the installation.

The radius of conduit bends must fulfil the requirements for the bending of the cables which they enclose and in addition the inner radius of the bend shall be not less than 2½ times the outer diameter of the conduit. Conduit systems not intended to be gas-tight must be self-ventilating and provided with drainage outlets at any point in the installation where condensed moisture might otherwise collect.

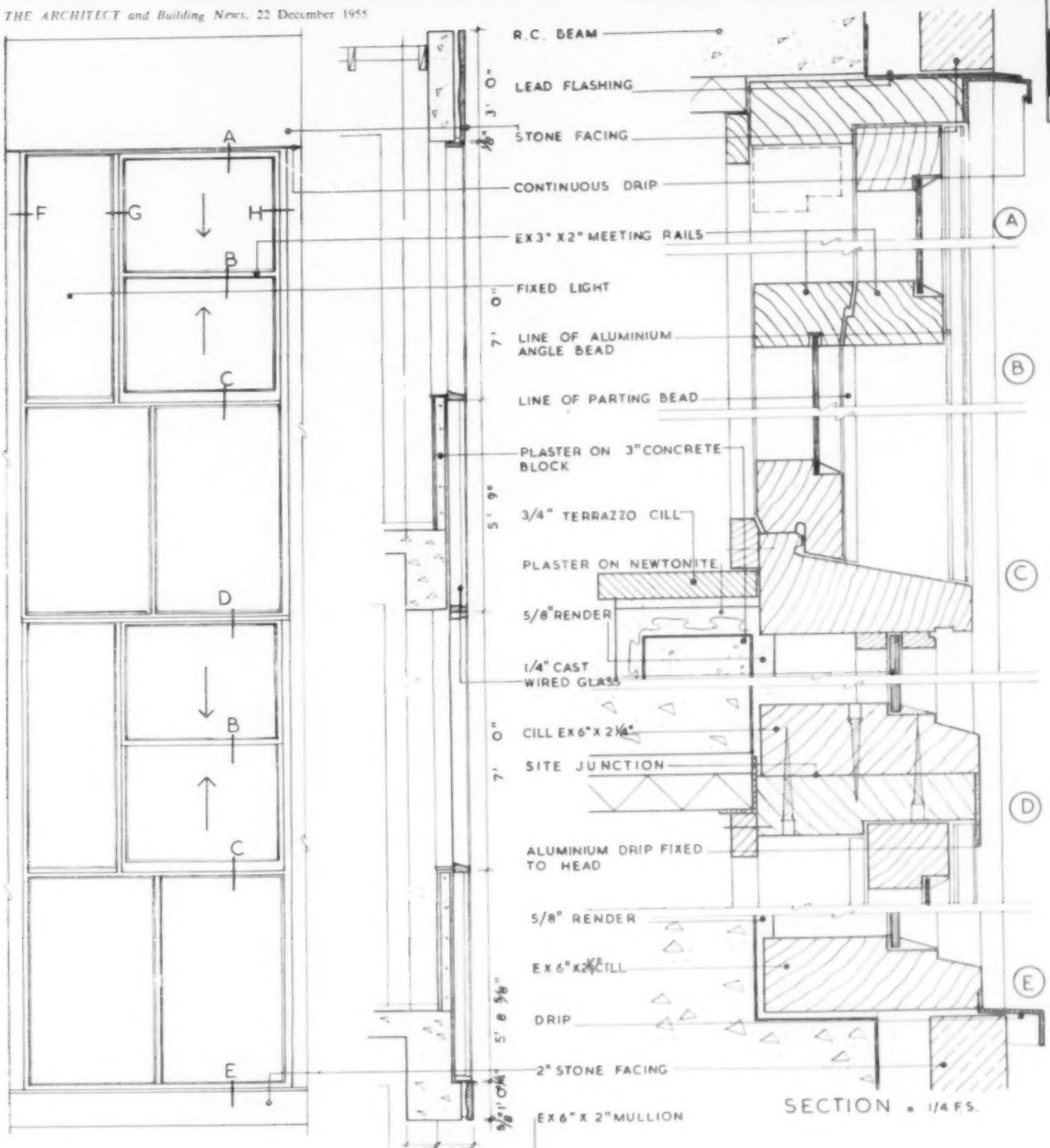
Duct and trunking systems are subject to similar requirements with regard to completion before installation of cable, protection against water, and diameter of bends. When the latter are formed in a circular concrete duct or pipe, they shall be of an inner radius of not less than four times the diameter of the completed duct. The radial thickness of concrete or screed surrounding the cross section of a complete concrete duct cast in-situ must not be less than half an inch at any point.

Cables for power and lighting operating at a voltage exceeding extra-low voltage (see Table 1) must not be drawn into the same duct or conduit as the cables of extra-low voltage systems, or radio, telephone, bell and call or sound distribution systems unless the latter are insulated for the highest voltage present in the power and lighting cables. On the other hand, cables with insulation appropriate to their particular use, may be installed in the same duct or trunking provided that they are effectively segregated throughout its entire length.

For further details apply to

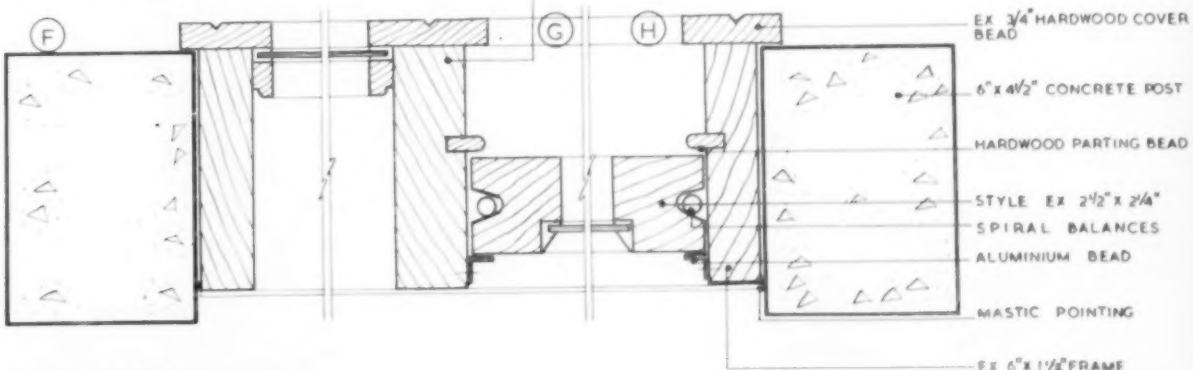
DI.3 British Electrical Development Association

2 Savoy Hill, London, W.C.2. Temple Bar 9434.



SECTION • 1/4 F.S.

KEY ELEVATION • 1/4"-1'0" • KEY SECTION



PLAN DETAILS • 1/4 F.S.

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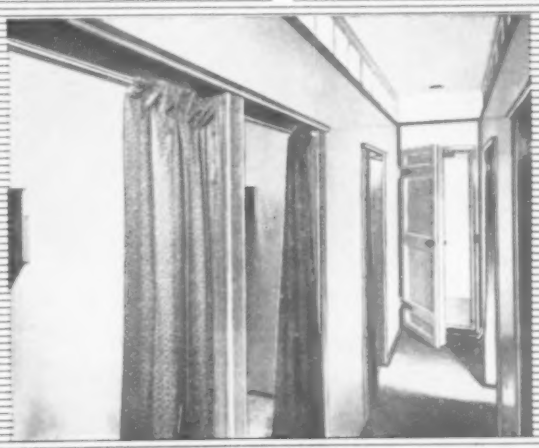
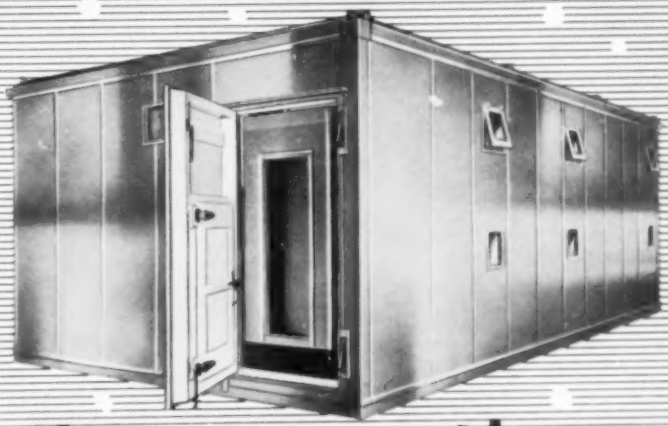
an island of warmth





in the antarctic cold

AT MAWSON, in the depths of the Antarctic, with the normal outdoor temperature—30 F., the living hut used by the Australian National Research Expedition stands as a centre of warmth in a wilderness of cold . . . the temperature is 60 F.

The outside of the hut, which measures 26′ × 16′ × 10′, is made of aluminium, while internally it is lined with Asbestolux, and 4″ Onazote* sandwiched in between. 120 m.p.h. gales are frequent, yet the strength of the hut is unaffected, and its temperate climate remains constant, despite the bitter cold.

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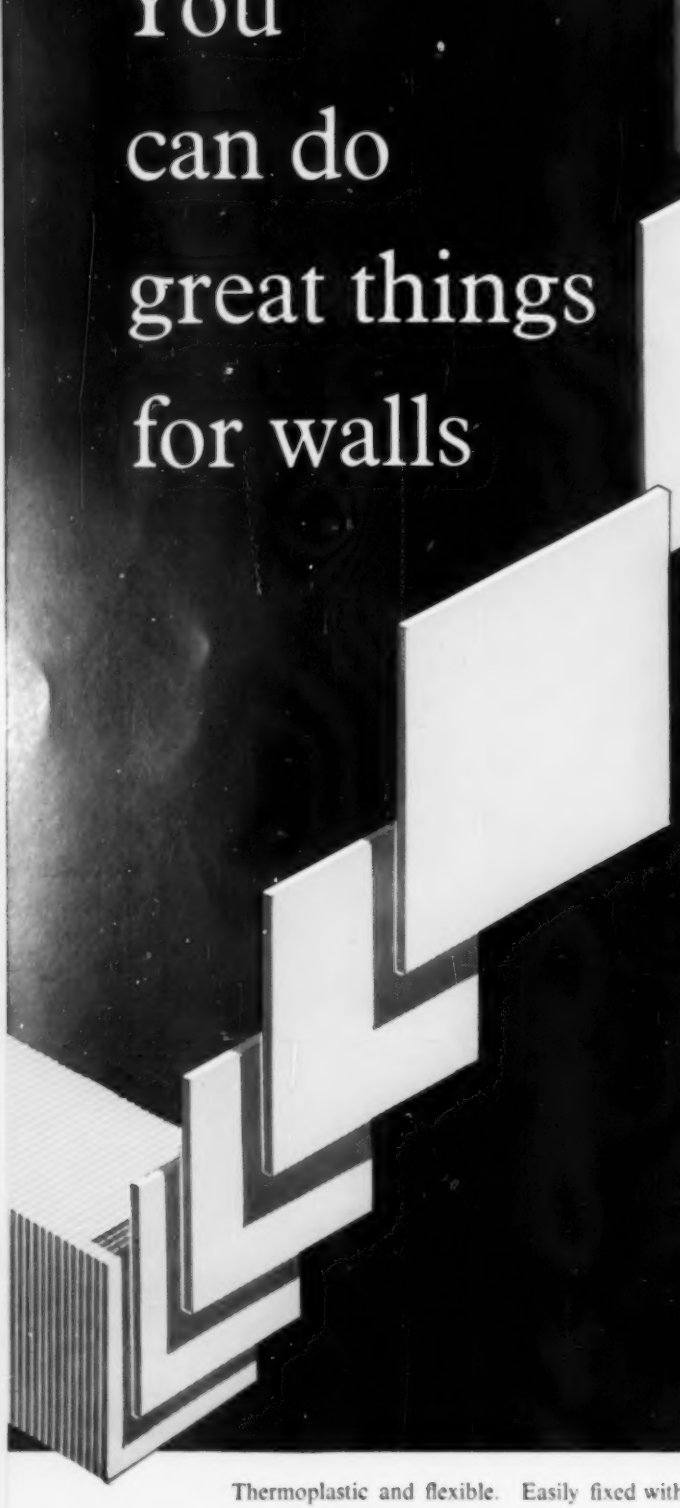

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CONTRACT • NEWS •

*Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading (c) deposit (d) last date of application (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

OPEN

BUILDING

AIREDALE AND WHARFEDALE JOINT CREMATORIUM COMMITTEE. (a) Erection of a crematorium, comprising chapel, crematorium, administrative offices and drives at Rawdon, near Leeds. (b) B. E. Townend, Town Hall, Ilkley, Yorks. (c) 2gns. (e) January 25.

* * *

BEBINGTON B.C. (a) Erection and completion of 48 flats in three-storey blocks, together with ancillary works, on land at Town Lane, Lower Bebington. (b) Borough Engineer, Brackenwood, Higher Bebington. (c) 3gns. (e) January 13.

* * *

BELFORD R.C. (a) Erection of 20 flatted dwellings on Meadows estate. (b) Kenneth Glover, Beadnell, Chathill. (c) 2gns. (e) February 6.

* * *

BIGGLESWADE U.C. (a) Erection of one block of six old people's bungalows at Back Street. (b) T. Wilson, Stratton House. (e) January 3.

* * *

BOURNEMOUTH B.C. (a) Construction of foundations, etc., and erection of a prefabricated timber building to form an assembly hall and stores at Winton and Moordown School, Oswald Road. (b) Borough Architect, Room 106, Town Hall. (c) 2gns. (e) January 6.

* * *

BRIDLINGTON. (a) Conversion and modernisation of certain rooms at Bempton Lane Hospital, for Scarborough, Bridlington, Malton and Whitby Group Hospital Management Committee. (b) Leslie Hartley, Scarborough Hospital, Scarborough.

* * *

BURTON LATIMER. (a) Erection of a grocery and butchery shop in High Street, for the Co-operative Industrial and Provident Society Ltd. (b) Secretary-Manager, Co-operative Society Ltd., High Street.

* * *

CAMBRIDGE C.C. (a) Carrying out alterations and additions to St. Andrew's C.E. School, Chesterton. (b) City Surveyor, The Guildhall. (c) 2gns. (d) January 2.

* * *

CARDIGANSHIRE C.C. (a) Erection of a new primary school at (1) Cwrtnewydd, near Llanybyther and (2) Trewen, near Newcastle Emlyn. (b) County Architect, County Hall, Aberayon. (c) 2gns. (e) January 20.

* * *

CHESHIRE C.C. (a) Erection of Tarporley Secondary School. Approx. cost £100,000. (b) County Architect, The Castle, Chester. (c) 2gns by cheque, payable to Council. (d) December 24.

* * *

COLCHESTER B.C. (a) Erection of a shopping hall on the Shrub End estate. (b) Borough Engineer, 1, West Stockwell Street. (c) 2gns. (e) January 6.

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* * *

CRAWLEY DEVELOPMENT CORPORATION. (a) Erection of 10 shops with 11 three-bedroom maisonnettes over and 12 garages at Southgate site No. 5 and four shops with three three-bedroom maisonnettes, one one-bedroom flat, and one two-bedroom flat over, and four garages at Three Bridges site No. 10 (Stage 2). (b) Chief Architect, Broadfield. (d) December 28.

* * *

CRAWLEY DEVELOPMENT CORPORATION. (a) Erection of ten four-bedroom houses with a garage adjacent to each dwelling at Langley Green site No. 8A. (b) Chief Architect, Broadfield. (d) December 28.

* * *

CROYDON B.C. (a) Erection of a gymnasium at Heath Clark School, Waddon. (b) Chief Education Officer, Katharine Street. (c) £1. (e) January 11.

* * *

CUMBERLAND C.C. (a) Erection of a clinic and administrative offices at Flatt Works, Whitehaven. (b) County Architect, 15, Portland Square Carlisle. (e) February 14.

* * *

ESSEX C.C. (a) Erection of second instalment of North East Essex Technical College Colchester. Approx. cost £180,000. (b) County Architect, County Hall, Chelmsford. (d) December 28.

* * *

ESSEX C.C. (a) Erection of a new smallholders house at New House Farm, Great Bromley estate, near Colchester. (b) County Land Agent and Valuer, 69, Duke Street, Chelmsford. (e) January 6.

* * *

ESSEX C.C. (a) Erection of Wanstead Nightingale Secondary School. Approx. cost £137,000. (b) County Architect, County Hall, Chelmsford. (d) December 28.

* * *

ESSEX C.C. (a) Erection of a new smallholder's house at Sheepcote Farm, Clavering. (b) County Land Agent and Valuer, 69, Duke Street, Chelmsford. (e) January 6.

* * *

ESSEX C.C. (a) Erection of (1) Aveley Technical School and (2) Harlow College of Further Education. Approx. cost (1) £228,000 and (2) £143,000. (b) County Architect, County Hall, Chelmsford. (d) December 28.

* * *

GLAMORGAN. (a) Erection of new village hall at Rudry, near Caerphilly. (b) T. Elvet Llewellyn, 59, Queen Street, Cardiff. (c) 2gns. (e) January 3.

* * *

GLYNNEATH. (a) Erection of British Legion Memorial Hall at Glynneath. (b) W. T. Richards, Colaton, Woodland Park.

* * *

HINDLEY U.C. (a) Erection of 71 houses at the Wooddagger estate. (b) Council's Engineer, Town Hall, Hindley, Lancs. (c) 2gns. (e) January 6.

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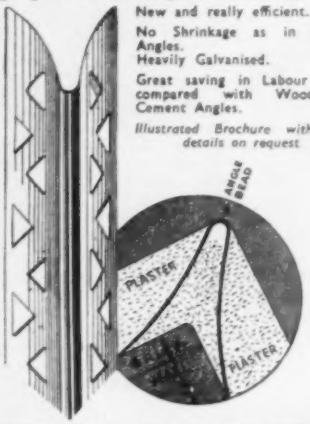

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* * *

LEEDS C.C. (a) Contract No. 657. Erection of 202 dwellings on the Belle Isle estate. (b) City Architect, Priestley House, Quarry Hill, 9. (c) £2. (e) January 10.

* * *

LEICESTER C.C. (a) Erection of additional sanitary and cloakroom accommodation at Maplewell Hall Special School, Woodhouse Eaves. (b) County Architect, 123, London Road. (c) 2gns. (e) January 6.

* * *

LEICESTER C.C. (a) Erection of a pair of farm workers' cottages at Brooksby Hall Farm Institute. (b) County Architect, 123, London Road. (c) 2gns. (e) January 16.

* * *

LINDSEY C.C. (a) Erection of a junior school at Grange Lane, Scunthorpe, consisting of a prefabricated steel framed structure, precast concrete walls, floors and roof of approx. 20,000 f.s. total floor area, together with site works, playground, etc. (b) County Architect, County Offices, Lincoln. (e) January 13.

* * *

LONDON — CHINGFORD B.C. (a) Erection of new municipal hall and county public library at Station Road. (b) Town Clerk, Town Hall, The Ridgeway, E.4. (c) 5gns.

* * *

MELTON MOWBRAY U.C. (a) Erection of a small addition and fitting-up bathroom at Cemetery Lodge, Thorpe Road. (b) P. B. Sutton, Egerton Lodge. (e) January 4.

* * *

MONTGOMERYSHIRE C.C. (a) Alterations and additions to Caersws School house. (b) Director of Education, County Offices, Newtown. (e) January 2.

* * *

N. IRELAND BALLYCASTLE R.C. (a) Erection of (1) eight cottages at Turreagh, Armoy; (2) four houses at Ballintoy; and (3) public sanitary conveniences at Ballintoy. (b) Council's Clerk, Council Offices. (c) 3gns. each for contracts 1 and 2 and 1gn for contract 3. (e) January 10.

* * *

N. IRELAND — BALLYMONEY. (a) Alterations and adaptations to courthouse at Charlotte Street, for the Ministry of Finance. (b) Ministry of Finance, Room 103, Law Courts Building, May Street, Belfast. (c) £2. (e) December 30.

* * *

N. IRELAND — BELFAST. (a) Erection of a church hall in Henry Place, for the Committee of Clifton Street United Presbyterian Church. (b) Messrs. Roe, Stevenson and Sons, 33, College Gardens. (c) 3gns. (e) January 13.

* * *

N. IRELAND — BELFAST C.C. (a) Erection of a grammar school for 750 pupils at Orangefield, Castlereagh Road. (b) Education Architect's Department, 40, Academy Street. (c) £5. (e) February 2.

N. IRELAND — BELFAST C.C. (a) Alterations and renovations at 446/448, Antrim Road, for use as children's home. (b) City Surveyor's Architectural Section, Room 53, City Hall. (c) 2gns. (e) January 9.

* * *

N. IRELAND — PORTADOWN. (a) Erection and completion of a youth centre at Jervis Street, for the Young Men's Christian Association. (b) Messrs. W. H. Stephens and Sons, 13, Donegall Square North, Belfast. (c) 3gns. (e) January 9.

* * *

READING B.C. (a) Erection of five shops with maisonnettes over, seven garages and a service road in The Meadway, St. Michael's estate. (b) Borough Architect, Town Hall. (c) 2gns. (e) January 20.

* * *

RICKMANSWORTH U.C. (a) Erection of 47 garages together with site works on the Berry Lane, Whitfield Way, Orchard Way and Shepherds Farm estates. (b) Council's Engineer, Council Offices. (c) 2gns. (e) January 3.

* * *

SCOTLAND — GALASHIELS BURGH COUNCIL. (a) Erection of 48 houses, two shops and 18 garages at Gala Policies. (b) Town Clerk. (d) December 28.

* * *

SEVENOAKS R.C. (a) Erection of (1) three pairs of two-bedroom houses (2) one block of six three-bedroom houses and (3) four blocks of one/two-bedroom flats, at Mount Pleasant Road, Weald. (b) Council's Engineer, Inglewood, Oak Hill Road. (c) 2gns. (d) December 30.

* * *

SOUTH SHIELDS B.C. (a) Erection of 88 houses at Whiteleas estate. (b) Borough Engineer, Town Hall. (c) 2gns. (e) January 10.

* * *

SOUTHWELL R.C. (a) Erection of five pairs of dwellings on cul-de-sac off Valley Road, Bilsthorpe, together with external services, roads and sewers. (b) Messrs. Wm. Saunders and Partners, 24, Castlegate, Newark on Trent, Notts. (c) 2gns. (e) January 4.

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SWANSEA B.C. (a) Erection of a new primary school at Bonymaen. (b) Borough Architect, The Guildhall. (c) £5. (d) December 30.

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* * *

WALLASEY B.C. (a) Erection of pavilion and shelter at Lingham Park. (b) Borough Architect, Town Hall. (e) January 17.

* * *

WEST RIDING OF YORKSHIRE C.C. (a) Erection of scullerys at Grewelthorpe C.E. School and Pudsey Waterloo Primary School. (b) County Architect, Bishopgarth, Westfield Road, Wakefield. (d) December 26. (e) January 2.

* * *

WEST RIDING OF YORKSHIRE C.C. (a) Carrying out adaptations at the Child Welfare Centre, Victoria Hall, Queensbury. (b) County Architect, Bishopgarth, Westfield Road, Wakefield. (e) January 9.

* * *

WISBECH. (a) Erection of shop and living accommodation at Church Drove, Outwell, for the Peterborough and District Co-operative Society Ltd. (b) Works Manager, Peterborough and District Co-operative Society Ltd., Works Department, Norfolk Street, Peterborough. (c) 2gns. (e) January 12.

* * *

WORKLEY R.C. (a) Erection of 24 flats and 14 garages at Lane End estate, High Green. (b) Messrs. Husband and Co., 388, Glossop Road, Sheffield, 10. (c) 5gns. (e) January 6.

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Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

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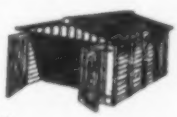

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2. Spreading STILWOOD insulation between the joists.
3. Compacting the STILWOOD to the correct density.
4. Laying STILMAT insulation over the joists.
5. Positioning wood battens to carry the floating floor.
6. Nailing floor boards to the wood battens.

The SECOND stage in detail

After the wire netting and ceiling board have been fixed as described in stage one, the spaces in between the timber joists are filled from above with STILWOOL mineral fibre insulation. The STILWOOL is poured straight from the bag to a depth of approximately 5" and to a density of 8 lb. per cubic foot, at which each 56 lb. bag covers an area of 22 sq. ft. The STILWOOL should be spread evenly and consistently, but not raked. It is then ready for tamping to the correct degree of compression at the next stage.

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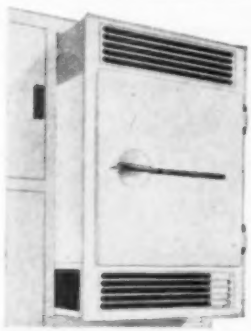

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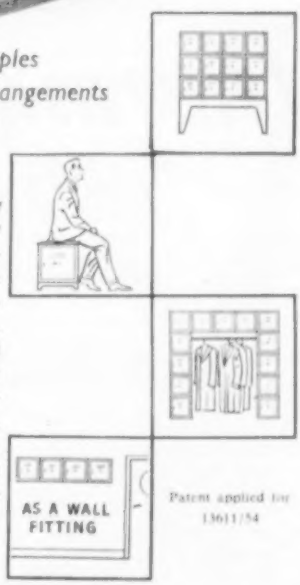

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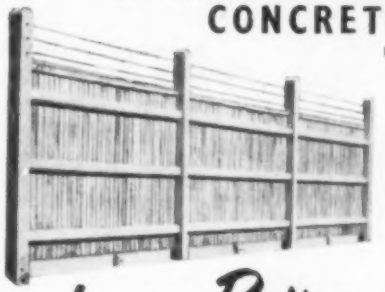

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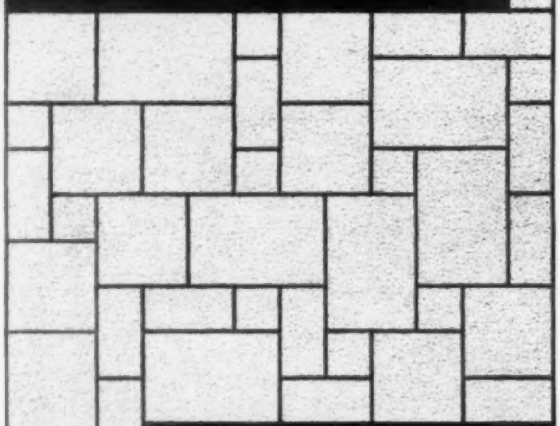

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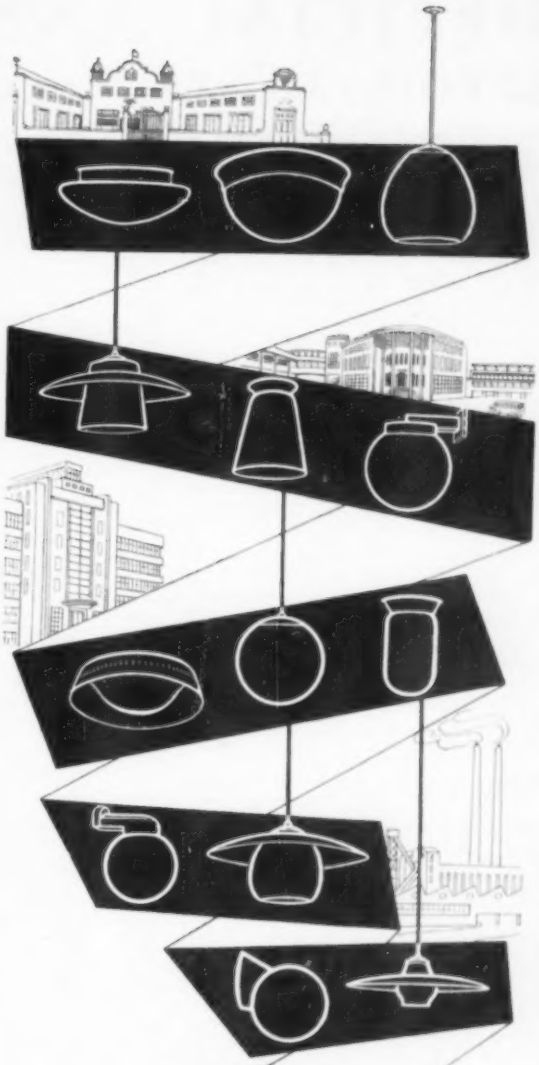

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BOROUGH OF OLDBURY

BOROUGH SURVEYOR'S DEPARTMENT
ARCHITECTURAL SECTION

APPLICATIONS are invited for the appointment of one Assistant Architect, Grade A.P.T. V (£750 - £900), in the Architectural Section of the Borough Surveyor's Department.

Applicants for the appointment should preferably be Associate Members of the R.I.B.A.

The architect appointed will be required to work primarily on the design and construction of Municipal houses, maisonnettes and multi-storey flats, and previous experience of this type of work is desirable.

The appointment will be superannuable, subject to the National Conditions of Service and to the selected candidate passing a medical examination.

Applications, giving particulars of age, qualifications and experience and the names of two referees, should be delivered to the undersigned not later than Monday, January 2, 1956.

Housing accommodation will be made available to married applicants if required.

KENNETH PEARCE,
Town Clerk.

Municipal Buildings,
Oldbury,
Birmingham.
December 6, 1955. [1834

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Wilton is situated at the foot of the Cleveland Hills in Yorkshire, five miles from the coast. Working conditions are good and recreation facilities including golf, tennis and badminton are available.

Write for application form to Staff Manager, Imperial Chemical Industries Limited, Wilton Works, Middlesbrough, quoting reference ICI/X/276. [1866

LONDON COUNTY COUNCIL

ARCHITECTS DEPARTMENT

VACANCIES for Architect Grade III (up to £945), and Architectural Assistants (up to £783), for widespread construction programme which includes houses, blocks of flats, schools of all types, and various public and industrial buildings. —Application forms and particulars from Architect, (AR/EK/A/3), The County Hall, S.E.1. [1189]. [0006

APPOINTMENTS—contd.

URBAN DISTRICT COUNCIL OF HINCKLEY

ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for this appointment in the Surveyor's Department at a salary within the range covered by N.J.C. Scales A.P.T. III and IV (£600 - £825) per annum) the commencing salary being determined according to the experience and qualifications of the person appointed.

The appointment is superannuable and subject to medical examination and is terminable by one month's written notice on either side.

Housing accommodation will be provided if necessary.

Applications, with particulars of the candidate's age, training and experience and the names and addresses of two referees, must reach the undersigned not later than Monday, January 9, 1956.

BRYAN R. OSTLER,
Clerk of the Council.

23, Station Road,
HINCKLEY. [1863

KENT COUNTY COUNCIL requires a SENIOR ARCHITECTURAL ASSISTANT in the Central Office of the PLANNING DEPARTMENT at Maidstone. Salary within Grade £675 - £900 per annum. Candidates must be Chartered Architects. The duties will comprise all three-dimensional design matters dealt with in the Department and could be wider if the successful candidate had a planning qualification.

National Scheme of Conditions of Service applies and registered disabled persons will be considered.

Applications, together with names of two referees must reach the County Planning Officer, County Hall, Maidstone, not later than January 12, 1956. [1858

COUNTY BOROUGH OF EAST HAM

ARCHITECTURAL ASSISTANT—Grade I £500-£580

LONDON Weighting is paid in addition. Salary in excess of the minimum may be paid according to qualifications and experience.

A subsistence allowance may be granted over a reasonable period to the persons appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.

Further details and application forms returnable by 13th January, 1956, from the Town Clerk, Town Hall, East Ham, E.6. [1868

HERTFORDSHIRE COUNTY PLANNING DEPT.

ASSISTANT ARCHITECT PLANNER (Headquarters) Grade S.C.II Special (£560 - £775).

Qualifications required for S.C.II are Intermediate Town Planning Institute or the Diploma of a recognised University. For "special" Grade the Final Examination of the Town Planning Institute or Royal Institute of British Architects or a Diploma of a recognised University, plus one year's experience is required. Promotion from S.C.II to "Special" is automatic on obtaining the necessary qualifications and a satisfactory report upon service.

The successful applicant will be employed in the Planning Design Section at County Hall and will be engaged in all aspects of architectural planning. Previous experience in this work will be an advantage.

Forms of application from the County Planning Officer, County Hall, Hertford. Forms to be returned by 7th January, 1956. [1869

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LONDON COUNTY COUNCIL requires:—

ARCHITECTURAL ASSISTANT for preparation of working drawings, schedules, specifications and supervision of work on site for sports pavilions, cafes, service buildings, etc., in parks and open spaces.

Salary up to £783 a year according to qualifications and experience.

Application forms from Chief Officer of the Parks Department, Old County Hall, Spring Gardens, S.W.1. (WHitehall 3121). (2082). [1861

ARCHITECTS' Co-partnership require qualified assistant with experience.—Write 44, Charlotte Street, London, W.1., or telephone Langham 5791. [0002

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ARCHITECTURAL ASSISTANT required by City firm of architects and surveyors dealing principally with commercial and industrial buildings and multiple retail shops. At least Inter. R.I.B.A. or R.I.C.S. standard. Good draughtsmanship essential.—Please reply, giving details of past experience and salary required, to Vigers & Co., 4, Frederick's Place, Old Jewry, E.C.2. [1859

ERIC LYONS, F.R.I.B.A., M.S.I.A., requires Junior Assistant.—Write, giving brief details, to Mill House, Bridge Road, Hampton Court, Surrey. [1860

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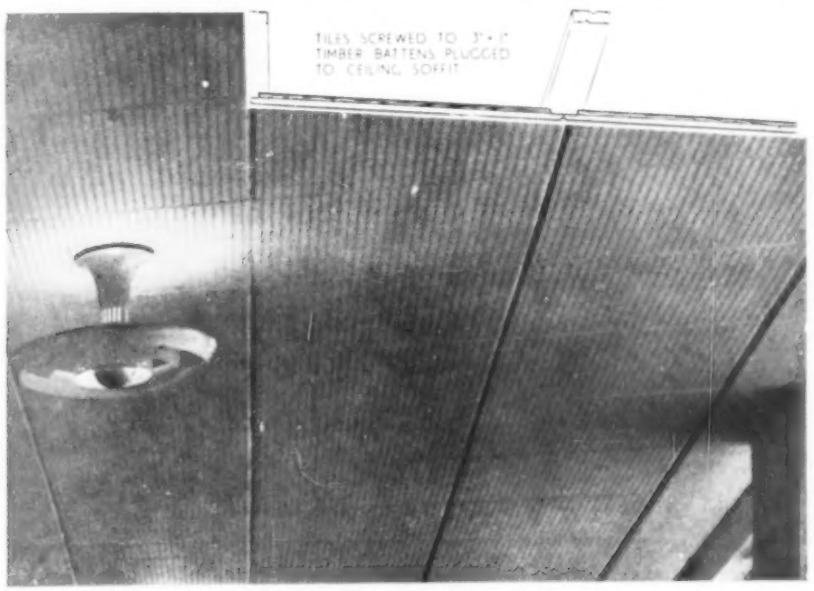
SUPACOUST

PERFORATED ACOUSTIC TILE

"SUPACOUST" tiles are manufactured from "Superplaster" (a fine Gypsum plaster admixed with "Superite" the plaster hardener).

"SUPACOUST" tiles combine high sound absorption with all the advantages of the plaster panels.

- EXCELLENT ACOUSTICS
- BEAUTIFUL DECORATIVE FINISH
- SIMPLE FIXING
- HYGIENIC SURFACE
- NON-COMBUSTIBLE



Typical Installation of "Supacoust" Tiles

Performance

Frequency (Cycles per second)	125	250	320	400	500	1000	2000	4000
SUPACOUST TILE with glassfibre quilt backing fixed on timber battens	0.25	0.55	0.65	0.65	0.60	0.35	0.25	0.20
SUPACOUST TILE with 1in wood wool backing	0.10	0.30	0.45	0.55	0.60	0.30	0.40	0.25
SUPACOUST TILE fixed direct on plaster board	0.15	0.10	*	*	0.20	0.35	0.50	0.60
SUPACOUST TILE left open at back	0.90	0.35	*	*	0.75	0.60	0.15	0.25

* Not tested at this frequency.

Sizes

Standards (supplied from stock) 24in x 24in x $\frac{3}{4}$in 24in x 12in x $\frac{3}{4}$in 30in x 15in x $\frac{3}{4}$in

Other sizes to specification.

Weight

Standard Tiles: $2\frac{1}{2}$lb per sq. ft. If Vermiculite Plaster is used: $1\frac{1}{2}$ — 2lb per sq. ft.

"Supacoust" tiles can be fixed to any surface by screwing. It is normal to fix only at the corners so that support for the standard panels is required only at 2ft 0in centres of say, 3in x 1in timber battens. Quotations will be gladly given for either (a) Supply to the Site only, for fixing by the General Contractor, or (b) Supply and fixing as a Subcontract.

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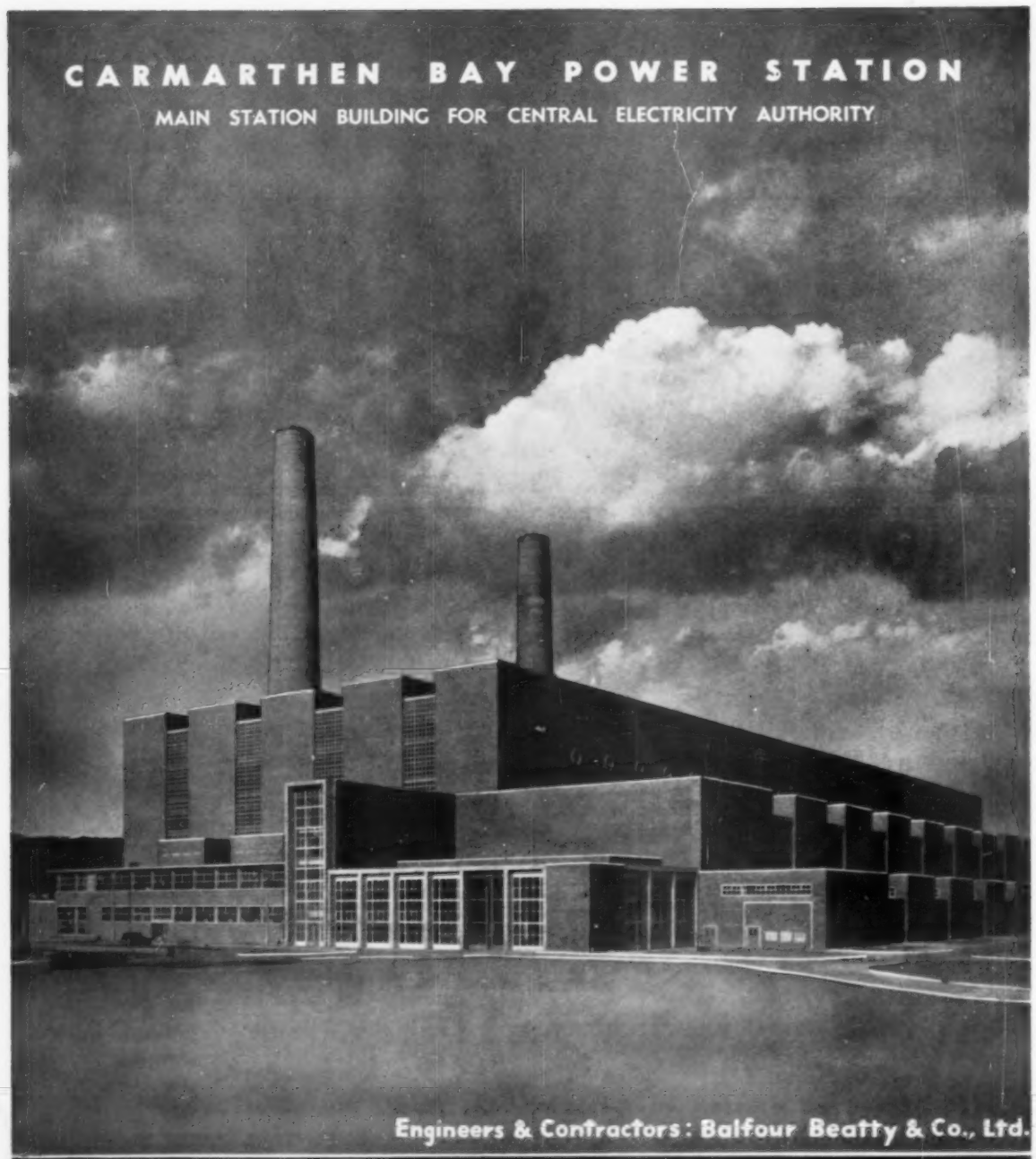
23-39 BENDON VALLEY, GARRATT LANE, LONDON, S.W.18 Tel. BATtersea 2497 8 9

CARMARTHEN BAY POWER STATION

MAIN STATION BUILDING FOR CENTRAL ELECTRICITY AUTHORITY



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